

# HOSPITAL BEDS STANDARD ADVISORY COMMITTEE (HBSAC) MEETING

Wednesday, November 10, 2004

Small Business Association of Michigan (SBAM)  
Phoenix Building – Suite 100  
222 N. Washington Square  
Lansing, MI 48901

## APPROVED MINUTES

### I. Call to Order.

Chairperson Dale Steiger called the meeting to order at 10:05 a.m.

#### a. Members Present and Organizations Represented:

Dale L. Steiger, Blue Cross Blue Shield of Michigan, Chairperson  
Robert Asmussen, Ascension Health/St. John Health System  
James F. Ball, Michigan Manufacturers Association  
Brooks F. Bock, MD, Wayne State University (Alternate) (arrived at 10:20 a.m.)  
James B. Falahee, Jr., Bronson Healthcare Group  
Maureen A. Halligan, Genesys Health System  
Denise Holmes, Michigan State University, College of Human Medicine  
Edmund Kemp, Michigan Department of Community Health (Alternate)  
Sande MacLeod, UFCW 951  
Robert Meeker, Alliance for Health  
Patrick G. O'Donovan, Beaumont Hospitals  
Elizabeth Palazzolo, Henry Ford Health System (Alternate)  
Anne Rosewarne, Michigan Health Council  
Kim Sibilsky, Michigan Primary Care Association (Alternate)  
Thomas Smith, Economic Alliance for Michigan  
Kenneth G. Trester, Oakwood Healthcare, Inc.  
Robert Yellan, The Detroit Medical Center (Alternate)

#### b. Members Absent and Organizations Represented:

John D. Crissman, MD, Wayne State University, School of Medicine  
Greg S. Dobis, McLaren Health Care  
Eric Fischer, The Detroit Medical Center  
Stephen Fitton, Michigan Department of Community Health  
Carol Parker Lee, Michigan Primary Care Association  
Vinod K. Sahney, Henry Ford Health System

#### c. Staff Present:

Lakshmi Amarnath  
William Hart  
Larry Horvath  
John Hubinger  
Joette Laseur  
Andrea Moore  
Stan Nash  
Brenda Rogers  
Gaye Tuttle

d. General Public in Attendance:

There were approximately 27 people in attendance.

**II. Declarations of Conflicts of Interest.**

None were noted.

**III. Review of Agenda.**

Chairperson Steiger moved item VIII after item IV. Motion by Ms. MacLeod, seconded by Mr. Ball, to accept the agenda as adjusted. Motion Carried.

**IV. Review of Draft Minutes of November 10, 2004.**

Motion by Mr. Ball, seconded by Mr. Yellan, to accept the minutes as presented. Motion Carried.

**V. Comparative Review Work Group – Presentation of Proposal.**

Ms. Peg Reihmer provided a written and powerpoint presentation and distributed written copies of the workgroup's proposal (Attachment A). Discussion followed.

Motion by Mr. Asmussen, seconded by Mr. Yellan, to adopt the comparative review proposal with some technical adjustments as discussed. Discussion followed.

Mr. Larry Horwitz, Economic Alliance, addressed the Committee.

Mr. Stephen Scapelliti, Unity Health, addressed the Committee.

Motion Carried.

**VI. Access Work Group - Update.**

Mr. Meeker provided an overview of the workgroup's written report (Attachment B). Mr. Hart provided the Committee with a copy of the Hospital Site Selection Project Final Report from Michigan State University (Attachment C). Discussion followed.

**VII. Review of Proposed Language – Travel Time.**

Ms. Rogers provided an overview of the proposed language (Attachment D).

Motion by Mr. Meeker, seconded by Mr. Trester, to accept Section 2(1)(q) of the proposed language. Discussion followed. Motion Carried.

Motion by Ms. Halligan, seconded by Mr. Yellan, to accept Section 4 of the proposed language. Motion Carried.

Motion by Mr. Meeker, seconded by Ms. MacLeod, to accept Section 6(5)(a) of the proposed language. Motion Carried.

Motion by Mr. Meeker, seconded by Ms. Halligan, to accept Section 6(5)(c) and (d) of the proposed language. Discussion followed.

Mr. Stephen Scapelliti, Unity Health, addressed the Committee.

Mr. Larry Horwitz, Economic Alliance, addressed the Committee.

Motion Carried.

Motion by Mr. Meeker, seconded by Ms. Halligan, to accept Section 6(5)(e) of the proposed language with the modification of "shall be prohibited from CON submission and approval" to "shall not be approved." Discussion followed.

Ms. Peg Reihmer, Botsford General Hospital, addressed the Committee.

Ms. Cheryl Miller, Trinity Health, addressed the Committee.

Motion Carried.

Motion by Mr. Meeker, seconded by Dr. Bock, to accept Section 6(5)(f) of the proposed language with the addition of "after beginning operation" at the end of this section. Motion Carried.

Motion by Mr. Meeker, seconded by Mr. Trester, to accept Section 6(5)(g)(i) & (ii) and strike Section 6(5)(g)(iii). Discussion followed.

Ms. Peg Reihmer, Botsford General Hospital, addressed the Committee.

Motion Carried.

Motion by Mr. Yellan, seconded by Ms. MacLeod, to accept the template of Appendix E with the addition of a column for population of the Limited Access Area and removal of the column for bed inventory. Motion Carried.

#### **VIII. Review of Proposed Language – High Occupancy.**

Ms. Rogers provided an overview of the proposed language (Attachment D).

Motion by Mr. Meeker, seconded by Dr. Bock, to accept Section 6(4)(d) of the proposed language with the modification of "shall not apply" to "shall not be approved." Discussion followed.

Ms. Peg Reihmer, Botsford General Hospital, addressed the Committee.

Mr. Mark Mailloux, University of Michigan Health System, addressed the Committee and provided a written overview (Attachment E).

Discussion followed.

Motion Carried.

Motion by Mr. Meeker, seconded by Ms. Holmes, to accept Section 6(4)(f) of the proposed language. Discussion followed.

Mr. Larry Horwitz, Economic Alliance, addressed the Committee.

Mr. Bob MacKenzie, St. Mary's Saginaw, addressed the Committee.

Mr. Mark Mailloux, University of Michigan Health System, addressed the Committee.

Motion Carried.

Chairperson Steiger requested that the Department draft language to modify Section 8 as discussed.

**IX. Public Comment.**

Mr. Larry Horwitz, Economic Alliance, addressed the Committee.

Ms. Peg Reihmer, Botsford General Hospital, addressed the Committee.

Mr. Mark Hutchinson, St. Mary's Health Care, addressed the Committee.

**X. Other Business.**

Motion by Mr. Falahee, seconded by Dr. Bock, that the Committee approve the discussions and changes discussed, today and in prior meetings, in substance and approve the content of the standards with refinements as discussed. The Chairperson is authorized to work with staff to facilitate these refinements. Discussion followed.

Motion Carried.

**XI. Adjournment.**

Motion by Dr. Bock, seconded by Ms. MacLeod, to adjourn the meeting at 1:03 p.m. Motion Carried.

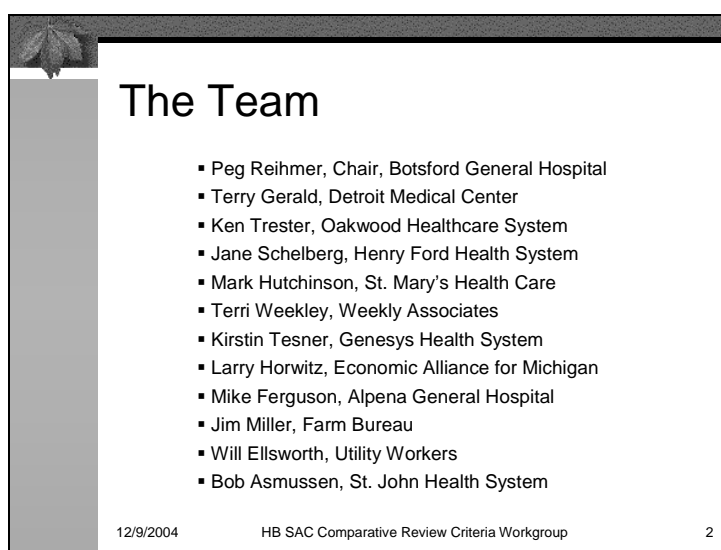
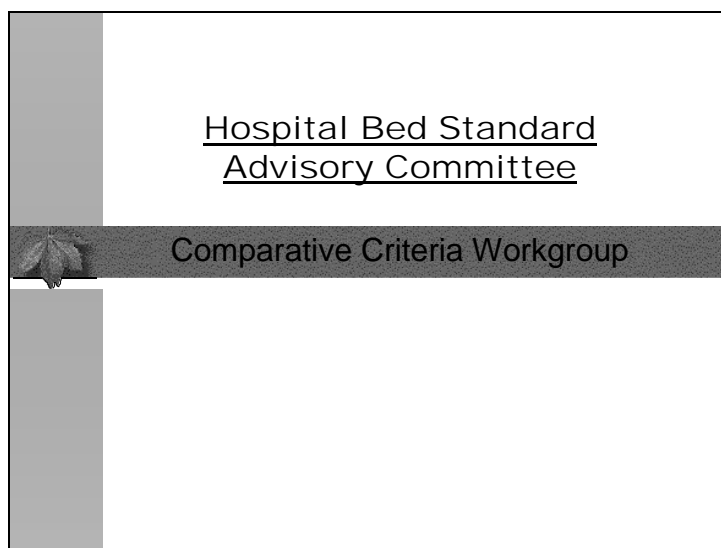
MINUTES APPROVED AND ACCEPTED BY:


\_\_\_\_\_  
Signature on file  
Dale Steiger, Chairperson  
Hospital Beds Standard Advisory Committee

\_\_\_\_\_  
December 14, 2004  
Date

\_\_\_\_\_  
Signature on file  
Brenda Rogers  
Special Assistant to CON Commission

\_\_\_\_\_  
December 14, 2004  
Date






## Our Charge:

Develop criteria to distinguish among competing applicants in a Limited Access Area.

12/9/2004 HB SAC Comparative Review Criteria Workgroup 3



## Decision Rules

- Does it distinguish among applicants?
- Is it measurable?
- Do we have verifiable source?

12/9/2004 HB SAC Comparative Review Criteria Workgroup 4

### Selected Top Six Criteria with Total Weights

- Uncompensated Care Percentage – 25 pts
- Medicaid Percentage – 20 pts
- Excess Inpatient Capacity Reduction – 15 pts
- Existing Market Share – 15 pts
- Population Coverage – 15 pts
- Capital Cost per Bed – 10 pts

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### Comparative Review Criteria Considered

- Access to Transportation
- Capital Cost per Bed
- Existing Footprint in LAA - site specific
- Financial Viability
- Full Service vs. Specialty Hospitals
- Market Share (MIDB)
- Medicare Participation
- Michigan Medicaid Participation (Medicaid Cost Report including Title V, MICHild, Psych, and Rehab categories)
- Michigan Uncompensated Care (Medicaid Cost Report)
- Non-Profit vs. For-Profit Status
- Operating Cost per Bed
- Population Coverage of LAA (MSU Report)
- Reduction of Excess Capacity

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## Proposed Comparative Review Criteria Language for LAA Exception

### Section (XX). Review standards for comparative review of a limited access area.

Sec. (XX) (1) Any application subject to comparative review, under Section 22229 of the Code, being Section 333.22229 of the Michigan Compiled Laws, or under these standards, shall be grouped and reviewed comparatively with other applications in accordance with the CON rules.

(2) Each application in a comparative group shall be individually reviewed to determine whether the application has satisfied all the requirements of Section 22225 of the Code, being Section 333.22225 of the Michigan Compiled Laws and all other applicable requirements for approval in the Code and these standards. If the Department determines that two or more competing applications satisfy all of the requirements for approval, these projects shall be considered qualifying projects. The Department shall approve those qualifying projects which, when taken together, do not exceed the need, as defined in Section 22225(1) of the Code, being Section 333.22225(1) of the Michigan Compiled Laws, and which have the highest number of points when the results of subsection (3) are totaled. If two or more qualifying projects are determined to have an identical number of points, then the Department shall approve those qualifying projects, when taken together, that do not exceed the need, as defined in Section 22225(1) in the order in which the applications were received by the Department based on the date and time stamp placed on the application by the Department when the application is filed.

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## Proposed Language – *continued* Uncompensated Care

(3)(a) A qualifying project will be awarded points based on the percentile ranking of the applicant's uncompensated care volume as set forth in the following table. For purposes of scoring, the applicant's uncompensated care will be the cumulative of all Michigan hospitals owned by, under common control of, or has as a common parent the applicant.

<u>Percentile Ranking</u>	<u>Points Awarded</u>
90.0 – 100	25 pts
80.0 – 89.9	20 pts
70.0 – 79.9	15 pts
60.0 – 69.9	10 pts
50.0 – 59.9	5 pts
Less than 50.0	0 pts

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## Proposed Language – *continued*

### Medicaid

(3)(b) A qualifying project will be awarded points based on the statewide percentile rank of the applicant's Medicaid volume as set forth in the following table. For purposes of scoring, the applicant's Medicaid volume will be the cumulative of all Michigan hospitals owned by, under common control of, or has as a common parent the applicant.

<u>Percentile Rank</u>	<u>Points Awarded</u>
87.5 – 100	20 pts
75.0 – 87.4	15 pts
62.5 – 74.9	10 pts
50.0 – 61.9	5 pts
Less than 50.0	0 pts

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## Medicaid and Uncompensated Care Data Rule

- If an applicant proposes to close a hospital, the Medicaid and Uncompensated Care data pertaining to that hospital shall be excluded for purposes of comparative review.
- Data can only be included for hospitals existing at time of application.

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**Proposed Language – *continued***

**Excess Inpatient Capacity Reduction**

**(15 pts)**

(3)(c) A qualifying project shall be awarded points as set forth in the following table in accordance with its impact on inpatient capacity in the health service area of the proposed hospital site.

<u>Impact on Capacity</u>	<u>Points Awarded</u>
Closure of hospital(s)	15 pts
Move beds	0 pts
Adds beds (net)	-15 pts
Closure of hospital(s) or delicensure of beds which creates a bed need	-15 pts

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**Proposed Language – *continued***

**Market Share**

(3)(d) A qualifying project will be awarded points based on the percentage of the applicant's market share of inpatient discharges in the LAA as set forth in the following table.

<u>Percent</u>	<u>Points Awarded</u>
% of market share	% of market share served x 15 (total pts awarded)

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**Proposed Language – *continued***

**Population Coverage**

(3)(e) A qualifying project will be awarded points based on the percentage of the limited access area's population within 30 minute travel time of the proposed hospital's site as set forth in the following table.

<u>Percent</u>	<u>Points Awarded</u>
% of population within 30 minutes travel time of proposed site	% of population covered x 15 (total pts awarded)

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**Proposed Language – *continued***

**Capital Cost per Bed**

(3)(f) All applicants will be ranked in order according to their total project costs divided by number of beds in accordance with following table.

<u>Cost per Bed</u>	<u>Points Awarded</u>
Lowest cost	10 pts
2 <sup>nd</sup> Lowest Cost	5 pts
All other applicants	0 pts

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### Additional Recommendations:

- Use comparative review criteria developed for LAA exception as foundation for development of criteria for any hospital bed applications.
- Incorporate consideration of access by public transportation, racial and ethnic diversity, cultural competency, and sensitivity to language barriers into project delivery requirements for all covered services.

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## **Hospital Access Work Group Report to the Hospital Bed SAC November 10, 2004**

### *Introduction*

In response to the report presented to the SAC on October 27, 2004, the Hospital Access Work Group was asked to investigate several issues further related to access to hospitals beds. They are as follows:

1. Examination of "limited access areas" identified
2. Consideration of Rural Issues
3. Development of draft language:
  - a. limited access areas
  - b. Hi-Occupancy

Recommendations of the Work Group related to these issues are as follows:

### *Examination of "limited access areas"*

Several discrete "limited access areas" are identified on the maps provided by the MSU geography department, including the following prominent areas:

1. Western St. Clair County and part of northern Macomb Co.
2. An area west and south of Alpena
3. A crescent-shaped area east of Traverse City
4. Much of the Upper Peninsula

Stan Nash is working with representatives of the MSU Geography Department to convert these mapped areas into zip-code-based populations, in order to determine which of them qualify as "limited access areas." The Work Group expects to present a list of the qualifying "limited access areas" as part of its report.

### *Rural Issues*

The Work Group expressed concern about the ability of a single new hospital to address the access needs of substantial numbers of people living in large limited access areas identified in rural areas. As a result, the Work Group recommends that a substantial proportion of the population of the identified limited access areas should be in relatively close proximity to the proposed location of any new hospital proposing to meet this need. In metropolitan areas, the proposed location should have at least 50,000 people in the limited access area living within a 30 minute travel time of the proposed location of the new hospital. In micropolitan or rural areas, the same number of people in the limited access area

should live within 60 minutes of the proposed location of the new hospital. If the proposed new hospital in rural areas will be a designated critical access hospital using beds relocated from elsewhere in the HSA, these numbers should be reduced to 15,000 people in the limited access area within 30 minutes travel time.

*Draft language for the "limited access areas" exception*

The Work Group recommends changes in the previous language for the "limited access exception," as follows:

Rural-Urban differences - as described above

Hospital size - minimum hospital size of a hospital in a limited access area should be as follows:

- Metropolitan areas - 100 beds or bed need of the limited access area, which ever is less
- Micropolitan and rural areas -- 50 beds or bed need of the limited access area, which ever is less, unless the new hospital will be a critical access hospital with beds relocated from another hospital within the HSA

Other CON services - Hospitals created under the limited access exception should be prohibited from CON approval for specific tertiary services for five years after beginning operation.

Relocation of limited access hospitals - Hospitals created under the limited access exception should be prohibited from relocating their beds for ten years after beginning operation.

Specific language reflecting these recommendations has been drafted by MDCH staff and will be distributed separately.

*Draft language for the "limited access areas" exception*

The Work Group was asked to consider for the first time issues related to the "high occupancy" exception to the acute care bed need methodology. The group makes the following recommendations regarding specific issues related to high occupancy:

Special provisions for children's hospitals - a modified proposal was presented allowing hospitals with at least 50 pediatric beds to use a "blended average" occupancy (pediatric and adult) to determine high occupancy. Although there is acknowledged to be greater fluctuation in average daily census on pediatric units, as compared with adult units, the same claim can be made about many specialty units. For this reason, the proposed modification for pediatrics was declined.

Limits on frequency of use of this exception by a single facility - the Work Group agreed that there should be no limit on the frequency of use of the high occupancy exception by any particular hospital. To a large extent, frequency will be self limiting by the length of time required to activate new beds at a hospital and the requirement that high occupancy must be sustained for at least 12 months.

Inclusion of the new beds in the official bed inventory - The work group recommends that the new beds should be included in the official inventory of licensed acute care beds.

Requirement to explore alternative mechanisms to acquire or add licensed acute care beds before using the high occupancy exception. - The Work Group recommends that applicants applying for new beds under the high occupancy exception should be required to demonstrate that they have made a good faith effort to acquire existing licensed beds within the same HAS and relocate them to the site experiencing high occupancy.

Possible replacement of the occupancy formula for determining the number of licensed beds available under this exception with a percentage (suggestion 10%) - The Work Group acknowledged the discussion and compromise that occurred prior to approval of the pilot program language for high occupancy contained in previous standards. For this reason, the group recommends that the language should not be changed to reflect a different approach to calculating the number of beds which can be obtained under this provision.

Specific language reflecting these recommendations has been drafted by MDCH staff and will be distributed separately. These recommendations reflect decisions made at the Work Group meeting on November 1, 2004. A follow-up meeting is scheduled for November 10, 2004, just prior to the SAC meeting. Any additional recommendations emanating from that meeting will be presented orally.



**Hospital Site Selection Project Final Report**  
**Michigan State University**  
**Department of Geography**

Joseph Messina Ph.D.

Ashton Shortridge Ph.D.

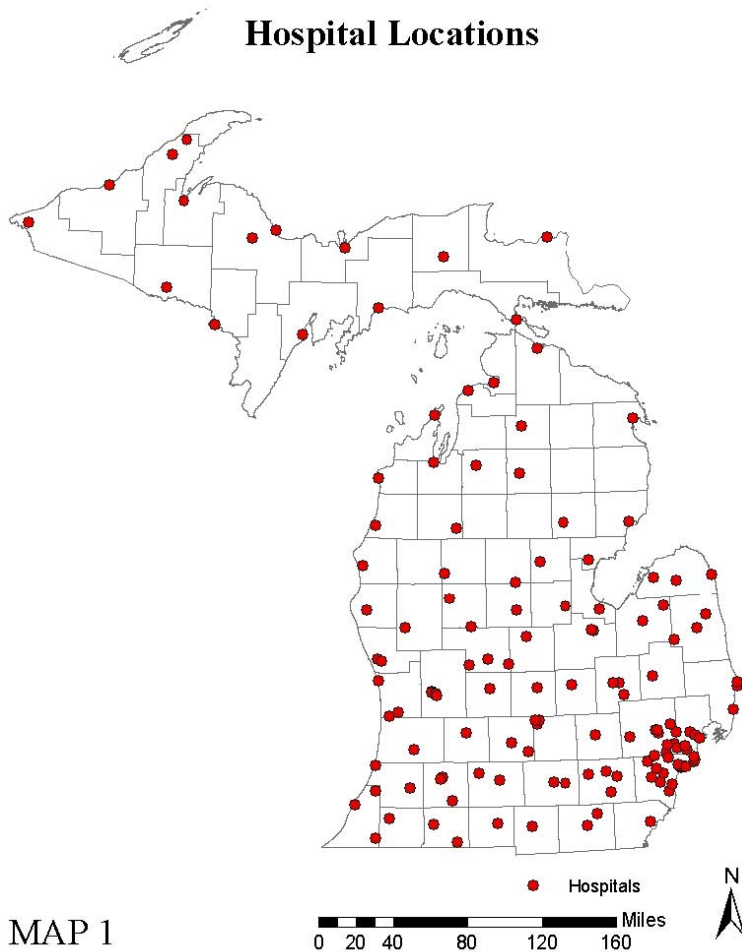
Richard Groop Ph.D.

**Map Production – Pariwate Varnakovida and Sarah AcMoody**

## **Project Synopsis**

Michigan's existing community hospitals are situated where they are for many reasons. Many facilities were built to serve large populations living close by; others were intended to provide regional coverage across less populated areas. Still others serve people across the entire state. The precise settings of these hospitals were dictated by diverse factors of geographical and historical contingency, including distribution of population at the time, the physical characteristics of available sites, and the human and political context of the moment. It seems quite likely that the factors leading to the development of today's spatial constellation of 139 community hospitals were largely local and particular for each individual hospital – that our current configuration arose in piecemeal, facility-by-facility fashion. Map 1 presents this pattern. The Department of Geography at Michigan State University submitted a proposal in response to a request from the Michigan Department of Community Health as part of an ongoing effort by the technical committee responsible for hospital site selection for the State of Michigan. This report details the results of the two main research tracks: 1) travel times, and 2) Optimal Hospital Locations (the clean slate model). As part of an introduction to the research issues some basic current demography was required and is presented in Section 1. The travel time methodology developed exclusively for this project is described in detail in Section 2. The optimal hospital location model is described in detail in Section 3. Finally, this report closes with a discussion and conclusions section.





## 1. Introduction to the Research Questions

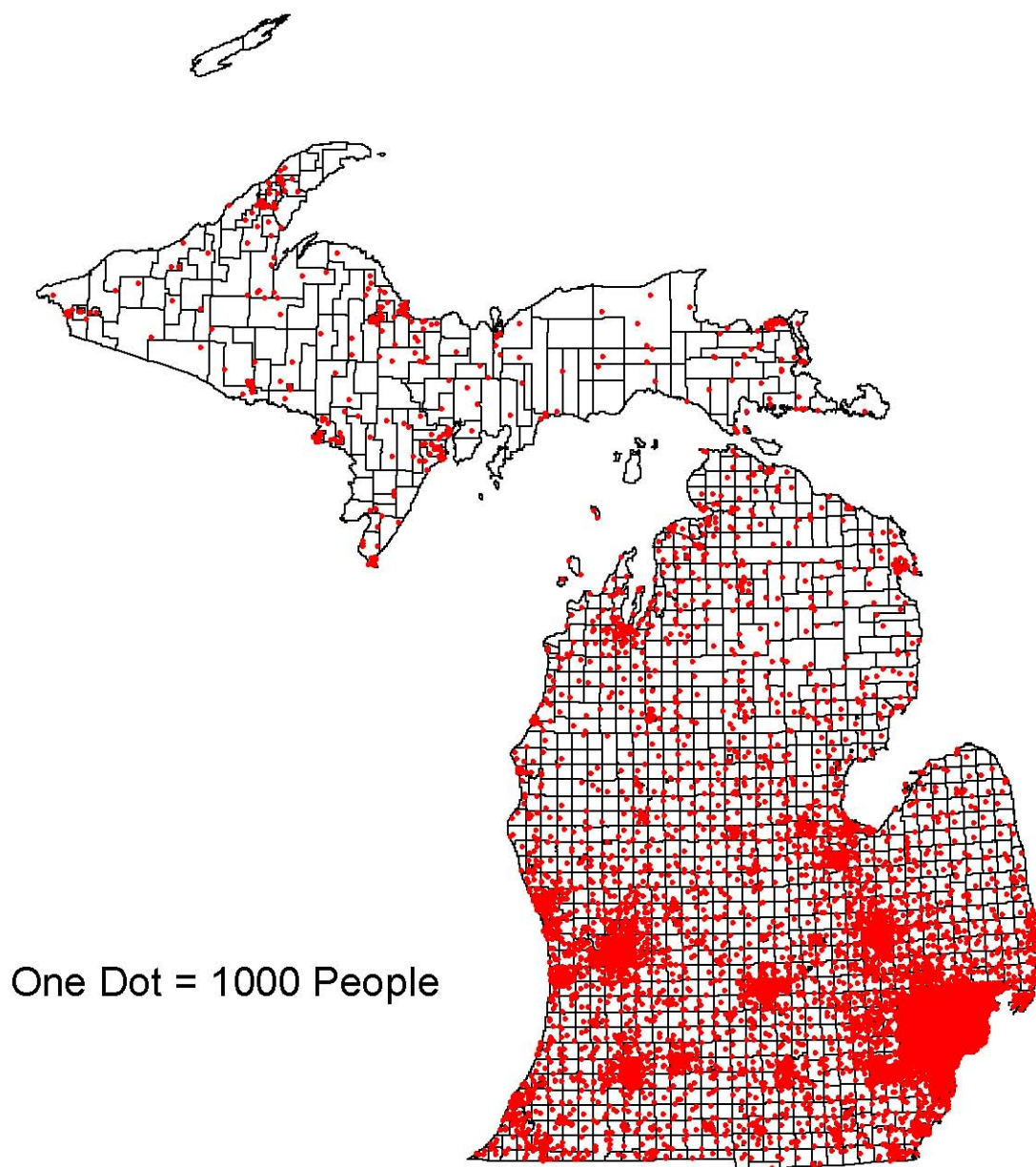
The Department of Geography at Michigan State University was contacted in July of 2004 about possible participation in the research component of the hospital site selection process for the state of Michigan. As part of that process two specific research questions were asked.

1. Given that time to emergency services at hospitals is the most important criterion for hospital placement and demand estimation, how much time is required for people in the state to travel to the nearest suitable hospital.
2. Given the current population distribution of the state, how might the existing hospitals be redistributed to optimize locations such that the majority of people are served.

The Department of Geography, via Dr. Richard Groop Chairman of the Department, produced a formal proposal to answer those questions. Dr. Joseph Messina worked on problem 1 and Dr. Ashton Shortridge worked on problem 2. The solutions to both problems are presented here.

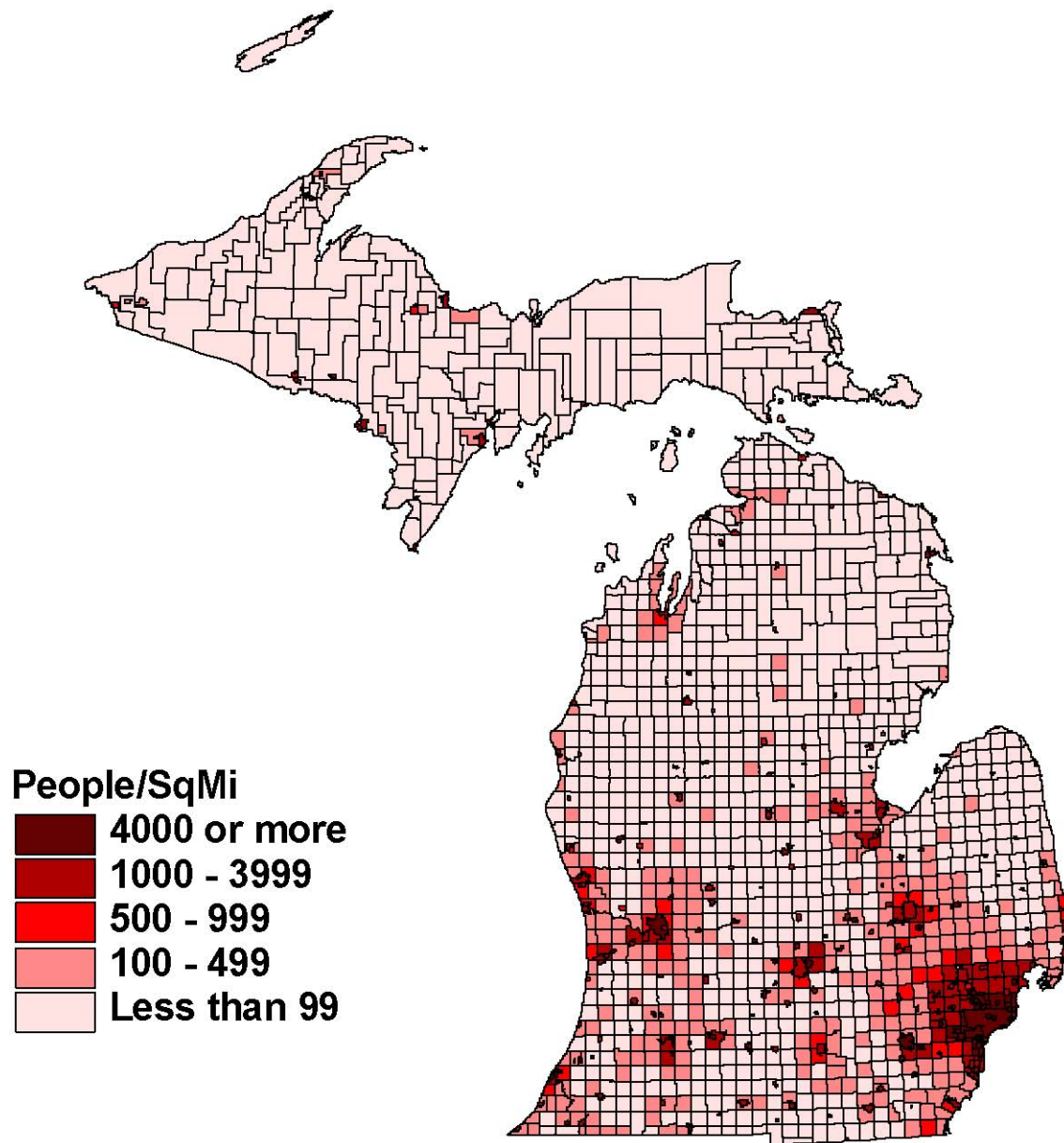
One challenge when working in any dynamic spatial environment is that various elements do change. One of the most visible dynamic elements of this project is the temporal nature of statewide demographic characteristics. Dr. Groop produced a series of maps using the US Census data to illustrate these changes statewide.

## POPULATION 2000



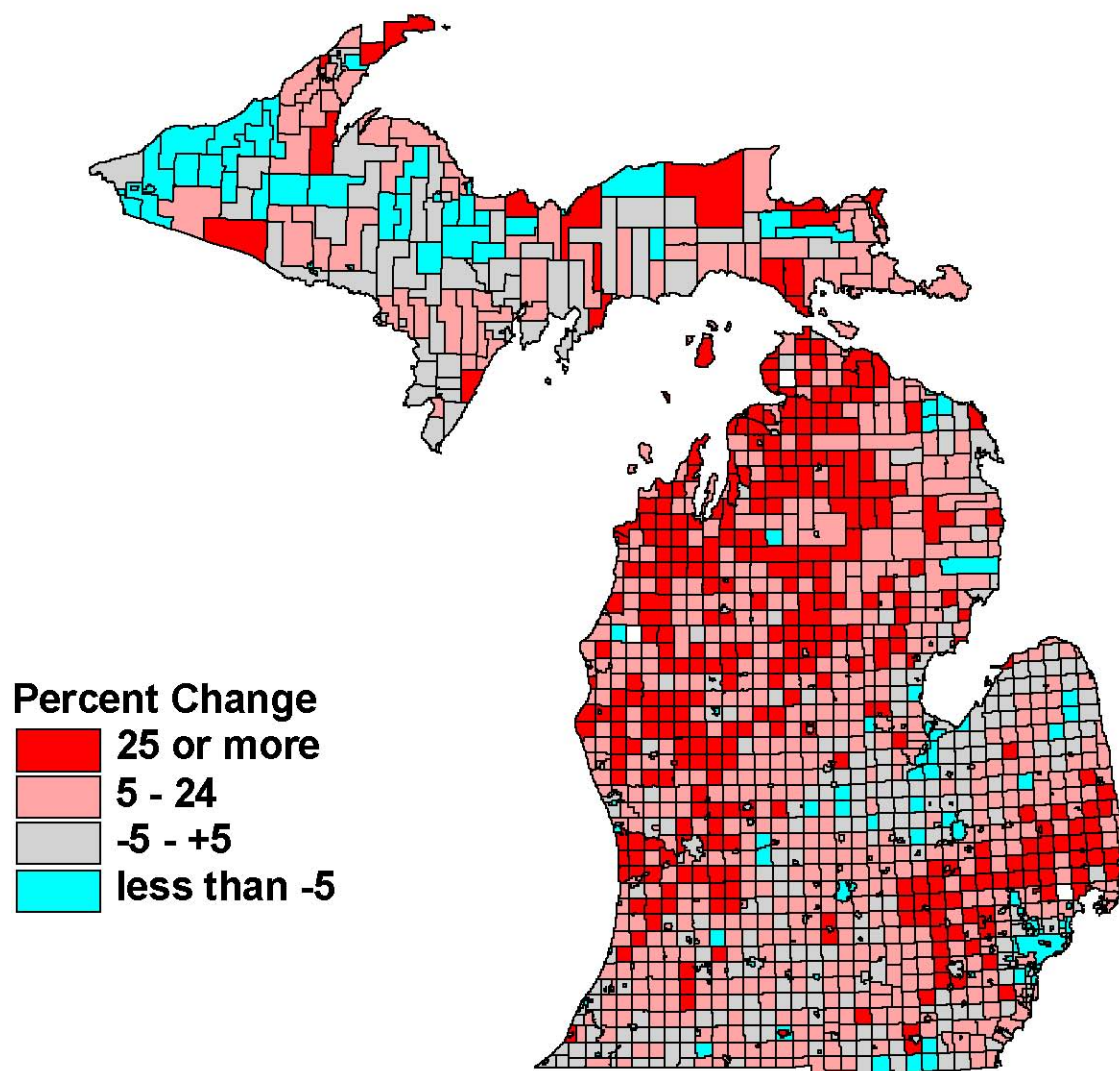
Map 1.1. Most of Michigan's people are found south of the "Bay City Line" in the southern half of the Lower Peninsula with approximately 40% concentrated in the southeastern part of the state. North of that line, urban concentrations are few and rural population thins dramatically with the Upper Peninsula accounting for only 3.4% of the state's population.

# POPULATION DENSITY 2000



Map 1.2. The highest population density area of the state is the Detroit metropolitan area with secondary areas around Grand Rapids and other cities. To the north, densities decline to some of the lowest in the eastern half of the U.S. Thus, Michigan provides one of the best examples of the highly varied nature of population distribution.

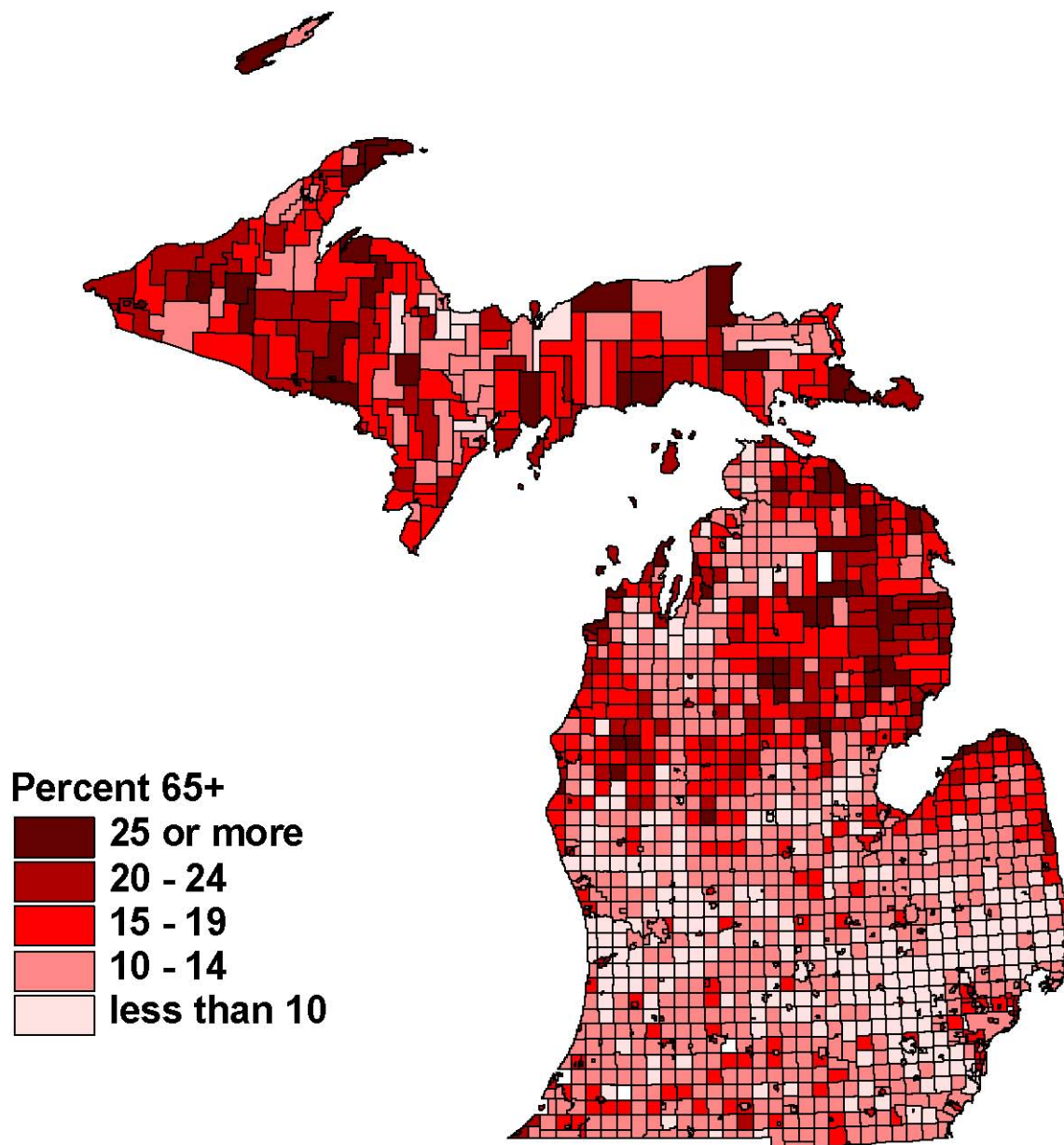
## POPULATION CHANGE 1990-2000



Map 1.3. Two distinct types of change are visible on this map. The first are the suburbanization areas around the Detroit metro area, Grand Rapids, and other cities in the southern half of the Lower Peninsula where urban out-migrants are “sprawling” into the surrounding rural townships. The second type of migration is found in the northern half of the Lower Peninsula where urban and suburban migrants (mostly retirees) are locating in remote, rural locations in the quest for scenic amenities.

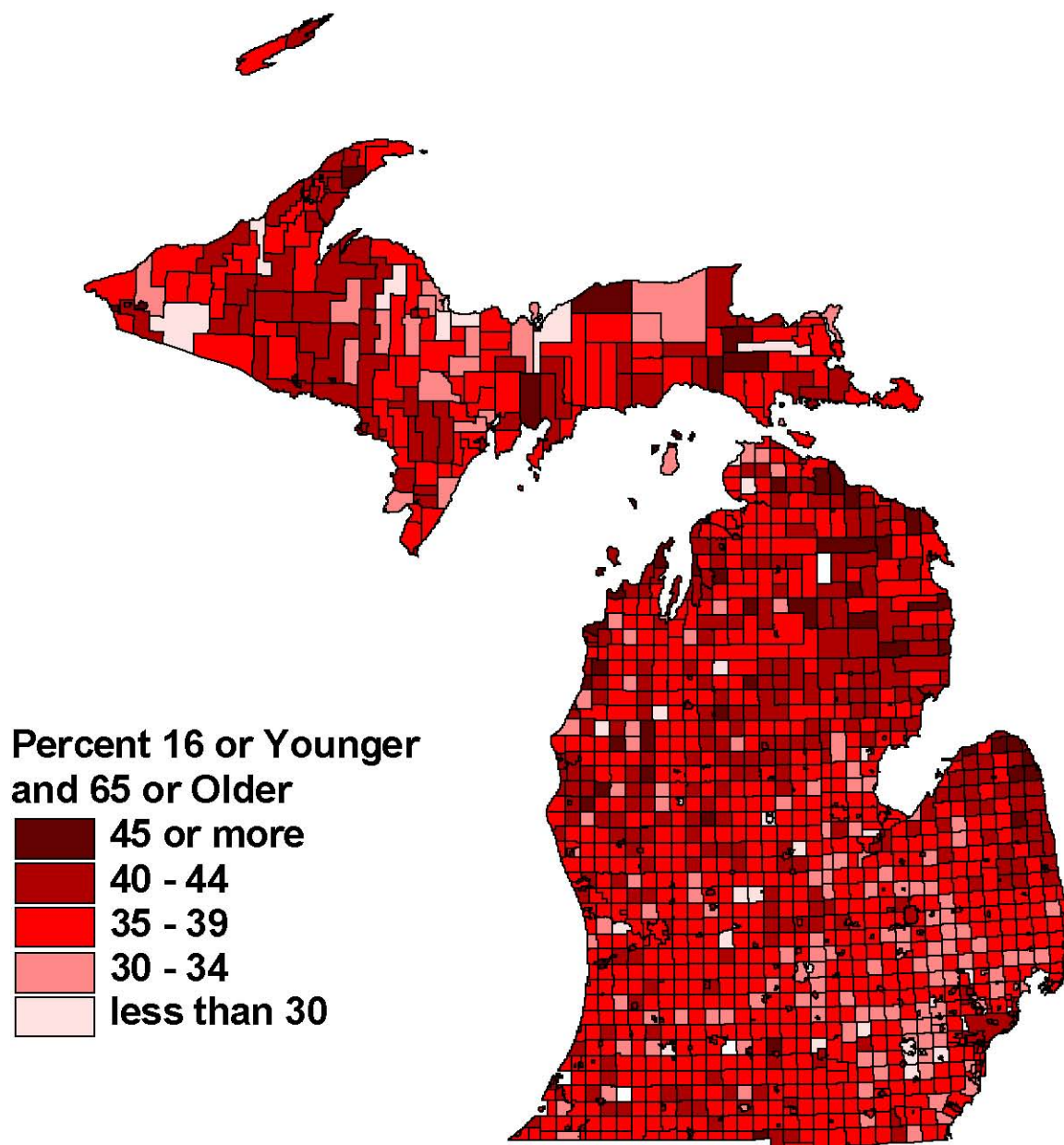


## OLDER POPULATION 2000



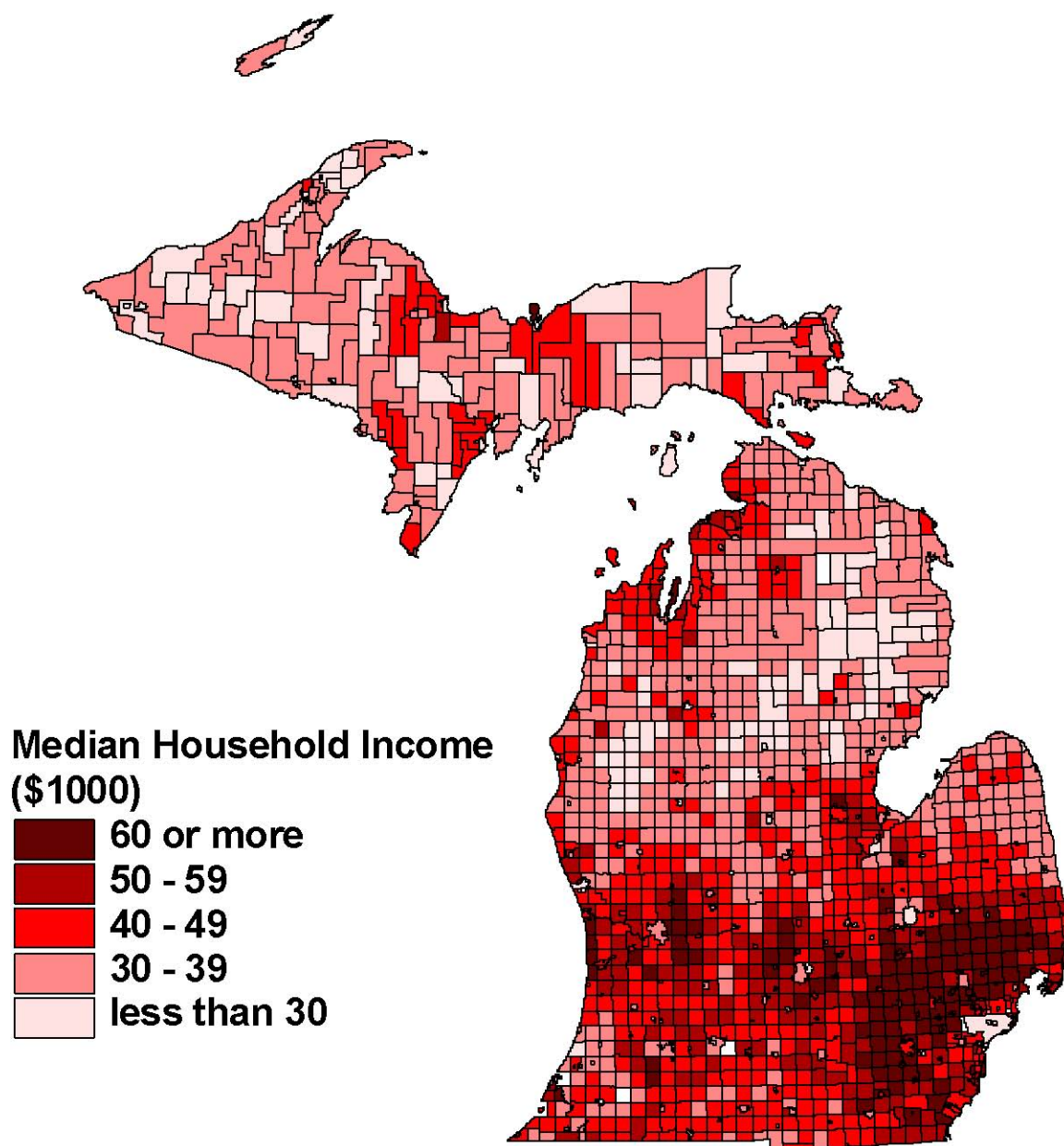
Map 1.4. Older people as a proportion of the population are concentrated in the northern half of the state, particularly in the Upper Peninsula and northeastern Lower Peninsula. These concentrations result both from the out-migration of younger people seeking employment or educational opportunities in large cities and the in-migration of older people seeking rural amenities.

## DEPENDENT POPULATION 2000



Map 1.5. This demographic measure shows the proportion of the population under age 16 and over age 65—that portion of the population least able to economically support itself through employment and that portion of the population most likely to need and seek health care services. As the population ages in the next decades, the higher percentage areas on the map will tend to become more concentrated.

# HOUSEHOLD INCOME 2000



Map 1.6. Wealth, in the form of disposable income, is concentrated in the suburban areas of the southern half of the Lower Peninsula where income due to employment wages tend to be highest. Central cities such as Detroit, Flint and Lansing do not appear visually prominent on this map but are important “holes” in the distribution.

## 2. Question 1 – Travel Time Methodology

The most pressing of the questions asked to support the technical subcommittee was question 1 or generically, the travel time methodology. The method developed for this study is in fact unique to the study but relies on well-accepted theoretical and computational foundations for support. While all the assumptions and model iterations are not presented in this document, the experimental process was quite involved and emerged only after many meetings with the technical subcommittee.

### Basic Requirements:

1. 3 mile spatial resolution
2. All places in the state must be measured
3. 30 minute travel time maximum to suitable hospitals
4. Variations in road types must be considered

### Computing Travel Times Over Space

Identifying travel time is widely recognized if not completely understood with modern consumer GIS systems, like OnStar™ and the handheld GPS mapping systems. One challenge though is that these tools rely on assumptions of locations and travel along a network and thus are entirely restricted to the publicly defined road network. This assumes that all travel begins on a road or on the network. Like cell phone coverage, the road network leaves significant gaps in statewide coverage maps. Further, these gaps are, in many cases, areas with road networks too new to be counted in the public system or areas of uncounted private or national road designations or in urban areas with significant industrial facilities. Consequently, a grid based model, one that accounts for all places was proposed. The grid model requires more computing infrastructure than the network model, but is a complete spatial representation of state hospital and health coverage. The 3 miles spatial resolution criterion was initially considered the largest area that could be aggregated into a cohesive single unit for hospital services and the smallest readily computable area. After significant experimentation, the models were recreated to run on 1-kilometer cells and results using the 1-kilometer cells are presented here.

### Travel Time Maps

The cost grid, or travel time, is derived from the Michigan Department of Transportation “FUNCLASS” or functional class of road designations. This class system uses the United States Department of Transportation (USDOT) system classifying all roads by their transportation function. This system is called the National Functional Classification (NFC) system. There are three major types (Arterial, Collector, and Local) within this system and roads are further divided into urban and rural (Table 2.1).

1 – Rural Interstate (principal arterial)	11 – Urban Interstate (principal arterial)
2 – Rural Other Principal Arterial (non-freeway)	12 – Urban Other Freeway (principal arterial)
5 – Rural Other Freeway (principal arterial)	14 – Urban Other Principal Arterial (non-freeway)
6 – Rural Minor Arterial	16 – Urban Minor Arterial
7 – Rural Major Collector	17 – Urban Collector
8 – Rural Minor Collector	19 – Urban Local
9 – Rural Local	0 or uncoded – not a certified public road

Table 2.1. MDOT National Functional Classification (NFC) code road classes



Speed limits are defined by road type, and, in Michigan, range from 25 to 70 miles per hour. No central organization manages or records speed limit information statewide. MDOT records speed limit information for M designated roads only. Thus, speed limits for representative road types were based on the speed limits of representative roads in the Mid-Michigan area. National guidelines for speed limit determination state that speed limits be based on the 85<sup>th</sup> percentile speed of all travelers over any given road segment. Thus, roads will change speed limits over their entire length but should do so within a 10 mph range or be redefined into another functional class.

## **XII. Computational Methods**

To produce maps and other data products displaying specific times, ESRI Arc/Info GRID based spatial analysis tools were employed. There are two existing classes of functions that might be used. The simplest class is the basic Euclidean distance function class, of which similar versions were employed in previous hospital site selection processes. Simply, these functions create buffers or boundaries around a site, hospital, of some specified distance. These functions have a long history in applied geographic research; however, they fail to effectively capture the variations in landscape and, most importantly for this project, transportation networks. Thus, “weighted distance functions” were tested and, ultimately, “Pathdistance” selected for the travel time methodology. These classes of functions are similar to Euclidean distance functions, but instead of calculating the actual distance from one point to another, they determine the shortest weighted distance (or accumulated travel cost) from each cell to the nearest cell in the set of source cells. A second exception is that weighted distance functions apply distance not in simple distance measures but in cost units. The term “cost” is the precise and correct term, but may be viewed very specifically for this research as “time.”

All weighted distance functions require a source grid and a cost grid. A source grid can contain single or multiple zones, which may or may not be connected. A cost grid assigns impedance in some uniform-unit measurement system that depicts the cost involved in moving through any particular cell. The value of each cell in the cost grid is assumed to represent the cost-per-unit distance of passing through the cell, where a unit distance corresponds to the cell dimensions. For this project, these costs are specifically travel time.

The PATHDISTANCE function then determines the minimum accumulative-travel cost from a source to each cell location on a grid. PATHDISTANCE not only calculates the accumulative cost over a cost surface, it does so while compensating for the actual surface distance that must be traveled and for the horizontal and vertical factors influencing the total cost of moving from one location to another. The accumulated-cost surface produced by PATHDISTANCE can be used in dispersion modeling, flow movement and, for this research, least-cost path analyses.

### **Calculation of Travel Times**

First, the source cells, or more specifically, the predetermined hospitals, are identified. Then the cost to travel to each neighbor that adjoins a source cell is determined. Next, each of the neighbor cells is ordered from least costly to most costly in a list. The cell location with the least cost is then removed from the list. Finally, the least-accumulative cost to each of the neighbors of the cell that was just removed from the list is determined. The process is repeated until all cells on the grid have been assigned an accumulative cost.

### **The Cost Grid**

Each cell location is given a weight proportional to a relative cost which is incurred by the phenomena being modeled when passing through a cell. The weightings are usually based on inherent features in the location that are static prior to the movement of the feature or phenomena. The cost units are any relative scale that is established. The units can be dollar cost, energy units expended, preference or even unit less, in this case, the scale is time derived by speed limits. Very specifically, the cost surface is derived from the time required to traverse a cell based on the slowest speed limit of any road within the 1 km cell. This is the most conservative estimate of the time required to cross any cell.

The cost values assigned to each cell are per-unit distance measures for the cell. That is, if the cell size is expressed in meters, the cost assigned to the cell is the cost necessary to travel one meter within the cell. If the resolution is 1000 meters, the total cost to travel either horizontally or vertically through the cell would be the cost assigned to the cell times the resolution (total cost = cost \* 1000). To travel diagonally through the cell, the total cost would be 1.414214 times the cost of the cell times the cell resolution (total diagonal cost = 1.414214 [cost \* 1000]). By interpreting the costs stored at each cell as the cost-per-unit distance of travel through the cell, the analysis becomes resolution independent. The PATHDISTANCE function creates an output grid in which each cell is assigned the accumulative cost from the lowest cost source cell.

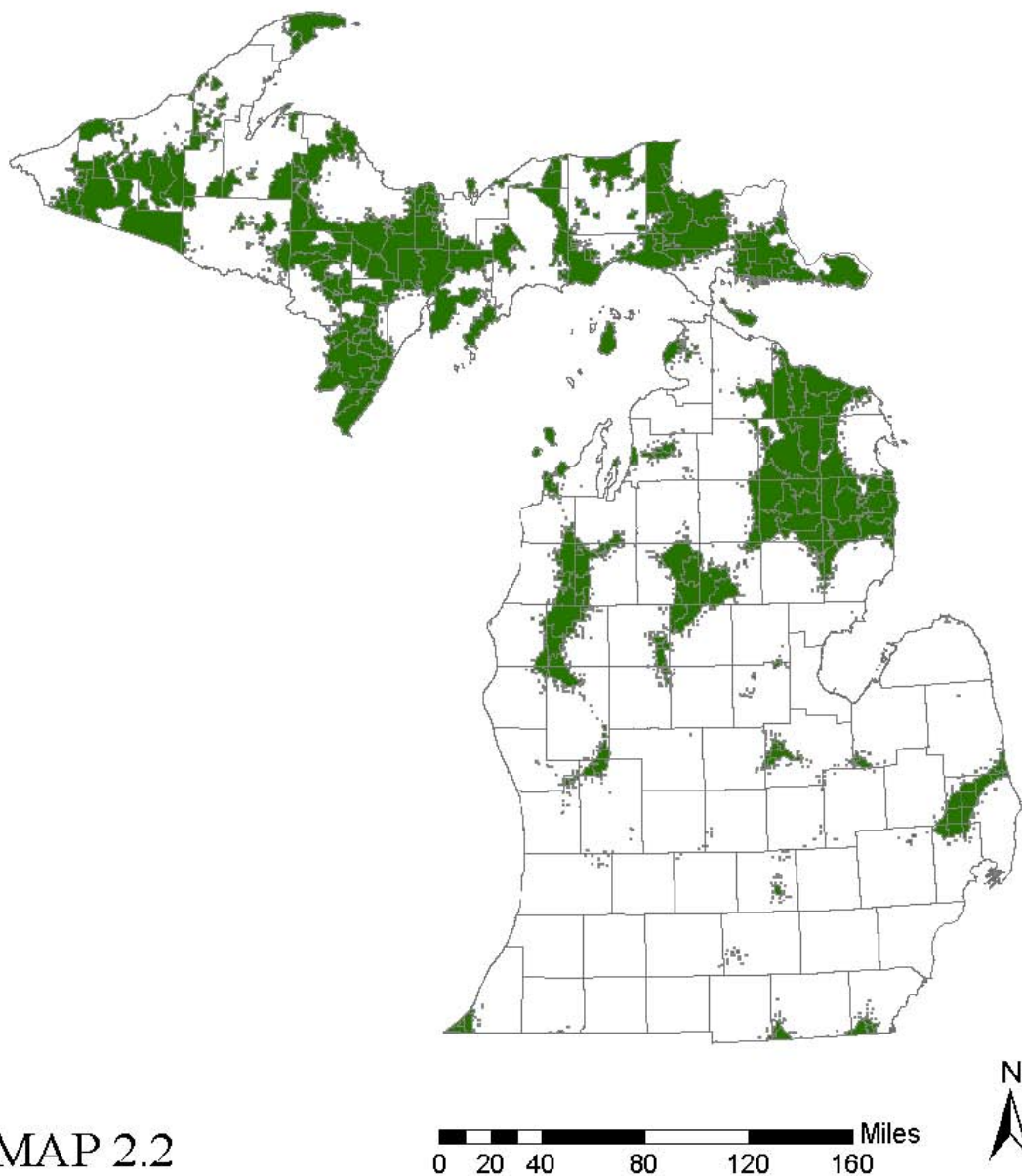
### **Modeling ZIP-Codes and Travel Times**

The specific output product is the total accumulative cost-distance grid. This grid stores for each cell the least-cost-accumulated distance that results from the least costly source cell. The least-cost-accumulated distance grid is transformed into a map product. The map product is used in a traditional map algebra process “overlay” with a zip-code map containing year 2000 census data. The final output products of this process are two-fold: a zip-code database that identifies unique zip codes and fractions of zip codes including multiple fractions of the same zip code, all outside the 30 minute travel time boundary. There are both map and database products. The final map is displayed here in Map 2.1. One concern raised by the technical committee was with respect to rush hour travel times, specifically assuming travel delays. To address that concern, travel times were redefined in urban areas, i.e. urban functional classes, to account for a 25% reduction in speed limits. All other modeling parameters were held constant. This model output is presented in Map 2.2. For research purposes, reductions in urban speed were modeled at 50% and 75% but are not presented here. The committee decided to use the “normal” or posted speed limits (Map 2.1) for service estimations. Two poorly serviced areas are identified in Map 2.3. The counties represented in these poorly served areas are identified on the map as well. The definition of poorly served as applied here is a contiguous area with a population of at least 50,000 in zip codes partially or wholly outside of the 30-minute travel time limit. The limited access region in the thumb is the most significantly underserved. Using a conservative measure of contiguity, the underserved population total is 74,450 in year 2000. The region north of Grand Rapids also meets the definition of underserved but given the complex spatial pattern requires a more liberal delineation of contiguity. Using the more liberal definition, 61,046 people are underserved. Both regions contain both partial and complete zip codes. It is important to understand that the populations reported are for zip code totals. No attempt was made to partition population based on partial zip code accessibility. This particular issue merits further research, but regardless; the method used here is the most widely accepted. The zip code database files that present this information were disseminated separately.



**Map 2.1. Green = poor access.** This map presents the results of the travel time methodology project. Not surprisingly, the Upper Peninsula contains the most area with poor medical access, but due to population totals and shifts, does not meet the criteria for an official underserved area. The northern Lower Peninsula also has a significant amount of area identified as poorly accessed, but also does not meet population criteria. There are three areas in the lower half of the Lower Peninsula that might meet the criteria: North East of Detroit, North of Lansing, North of Grand Rapids.

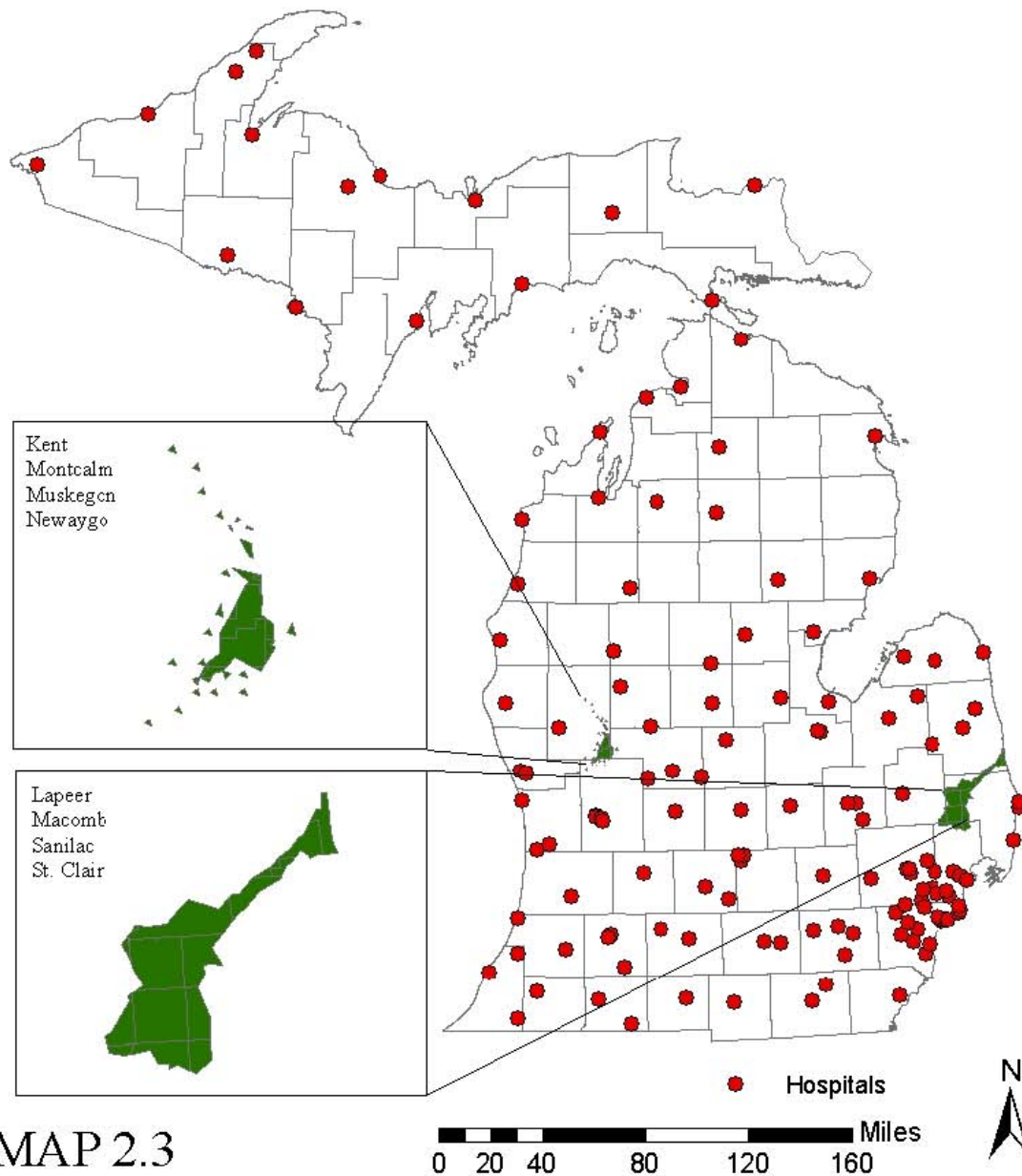
**Areas outside of 30 minutes  
travel time from selected hospitals  
25% urban speed limit reduction**



**MAP 2.2**

**Map 2.2. Green = poor access.** Using a 25% urban road speed limit reduction, the areas underserved essentially remain with slightly more total area now included. Careful comparison of Map 2.1 with 2.2 permits the identification of new areas. However, this reduction in urban speed limits does not dramatically alter the configuration of the underserved areas.

## Selected underserved areas with population greater than 50,000



**MAP 2.3**

**Map 2.3. Green = poor access.** Using the product present in Map 2.1 and the contiguity and population criteria, two areas are identified as being “underserved.” The top callout is centered north of Grand Rapids and contains four counties, though only a very small portion of Muskegon is actually part of the area. The lower callout is north/northeast of Detroit, contains the greater total land area and greater total population of the two regions.

### 3. Question 2 - Optimal Hospital Locations

This section considers a systematic approach to the development of a spatial configuration of hospitals. This approach asks the question, “*if we could position community hospitals in Michigan anywhere we pleased, what would be the placement that would best serve the population?*” Of course, the answer (or answers!) is entirely hypothetical. Planners and policy makers must make decisions based on the existing arrangement. However, the results of such an optimization exercise may be both interesting and useful:

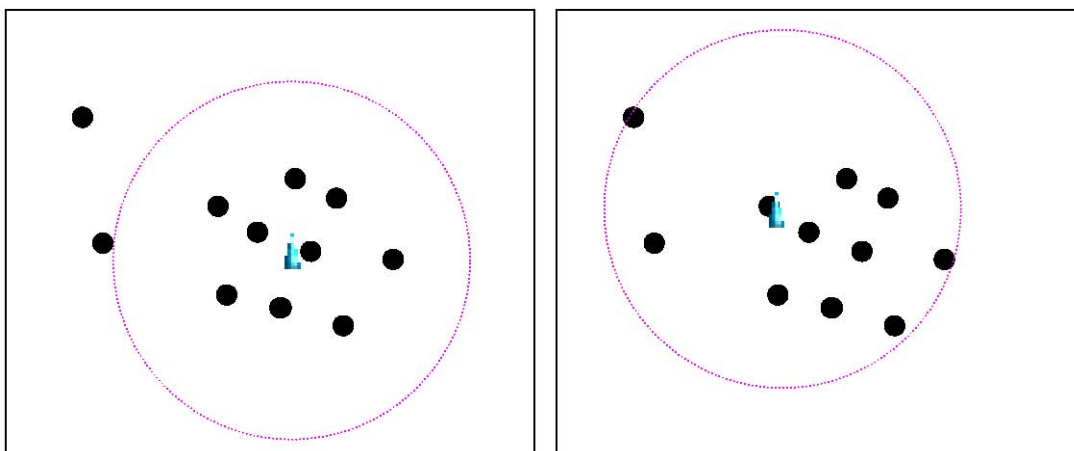
- How can optimal be defined and implemented?
- What are the key spatial issues in defining an optimal arrangement?
- How “sub-optimal” is the current hospital constellation?
- Can we quantitatively measure the improvement a new proposed facility offers?
- Given the existing configuration, what is the optimal location for the next facility?

#### Location-Allocation Models

Location-allocation modeling has been a significant branch of geography for decades. Over that time, powerful models have been developed to identify optimal solutions for a variety of facility location and demand allocation problems. The standard location model, regardless of form, requires certain types of input information:

- Locations of existing facilities
- Locations of demand sources
- Locations representing potential sources
- A transportation network connecting these locations

The output of a location model is a set of new facility locations that optimally satisfy the demand, given some assumptions and model constraints. These models define “optimal” in particular ways; for example, the P-median model identifies a solution that minimizes average (median) travel distance to the nearest facility from a set of demand locations. In its basic form, a P-Median solution guarantees that aggregate travel is minimized. However, some demand points may be quite distant from the nearest facility (refer to figure 3.1 for an illustration of this). Public health applications may find other models more appropriate, especially since demand in this case is a person in (possibly urgent) need of medical care. The maximal covering location model (Maxcover) is an alternative that identifies facility locations so that as much demand as possible is within a specified distance of the closest facility. More formally, this model maximizes the population covered within a specified distance of a specified number of facilities. The model solution is a set of  $n$  facility locations that maximize coverage within a specified distance of those facilities. The model does not find a solution that minimizes total distance traveled, like the P-median problem. Figure 3.1 illustrates the difference in solutions between these models for a simple case siting a single facility among a few demand points. The P-median solution places the facility in the center of most of the demand points, minimizing overall travel time. In contrast, the Maxcover solution ensures that all demand points are within the specified distance of the facility. However, average distance to the facility is greater under this model. Depending on how “optimum” is defined for a given problem, rather different solutions can be obtained from different location-allocation models.



**Figure 3.1.** P-Median solution on left, Maxcover solution is on the right. The triangle indicates the optimal position for a single facility serving the demand points.

### Data

The committee supplied us with two crucial data sets for developing this analysis: Michigan's community hospitals, and state zip codes with associated patient days. The first of these is a list of 139 community hospitals with addresses and licensed bed capacity for 2002. A brief review of this data reveals some interesting characteristics about the number and variability of capacity:

- 24,924 beds statewide
- Greatest bed capacity: 903 (Henry Ford – Detroit)
- Smallest bed capacity: 8 (Paul Oliver-Frankfort)
- Capacity Statistics: Mean: 179 beds; Median: 106 beds; Std Dev: 174 beds

Half of the state's community hospitals have fewer than 106 beds. The inner quartile range, indicating the middle 50%, lies between 53 and 269 beds. Several very large facilities with hundreds of licensed beds are far above this inner quartile range.

Because fine spatial precision was not deemed necessary or desirable for this portion of the project, each hospital's position was identified simply as the central point (centroid) of the zip code. The goal is to identify hospital demand at a regional level, not to identify site-specific locations for facilities. These hospitals are located in 129 different zip codes. One code – 48201 in Detroit – contains 5 facilities with a total of 1,809 licensed beds. For this component of the project, we will consider Michigan as having 129 locations at which hospital beds are available; these locations may include more than one facility. Map 3.1 illustrates these locations (zip code centroids) at which existing Michigan hospitals are located. Most facilities, and most licensed beds, are in densely populated southeastern Michigan. A regularly spaced pattern of hospital facilities characterizes most of the northern, rural parts of the state.

The second data set is a list of 908 zip codes across Michigan with their associated aggregate patient days for 2002. Only patient days at community hospitals were included. We were able to find the spatial location for 893 of those zip code centroids. Looking at the statistical distribution of the patient day data reveals some important characteristics:

- Total number: 5,407,985 patient days
- Fewest Patient Days: 18 (48824 – East Lansing, MSU Campus)
- Greatest Patient Days: 49,506 (48180 – Taylor)



- Patient Days by Zip: Mean: 6,055; Median: 2,533; Std Dev:
- The inner quartile range (middle 50%) of this data range from 996 to 7,654.

Some of the smallest numbers in the data set represent special cases. 48824 is the Michigan State campus zip code. The next smallest, with 19 days, is the zip code for Detroit Metro Airport. Other university campus zip codes feature prominently at the bottom end of the patient day rankings. It is likely that many residential students requiring hospitalization report their parents' home address, thereby making interpretation of the values difficult.

Patient days are not an ideal variable for this analysis, which is concerned with occupancy rates. Dividing patient days in each zip code by 365 provides a figure representing average daily demand from each zip code. The statewide daily average bed demand is 14,817. This figure can be compared to the total supply of 2002 licensed beds by community hospitals to calculate a statewide average daily occupancy rate of 59.4%. Of course this average is only an approximation of any particular daily rate. We do not have access to data that would enable us to identify the variation about that average.

We would expect bed demand per day to vary geographically across the state, and to generally follow the spatial distribution of population. Map 3.2 is a map of bed demand per day. High values are located around metropolitan Detroit, Grand Rapids, and other urban population centers. Lower values are located in rural parts of the state. It is important to recognize that zip code size varies by more than an order of magnitude in Michigan; they are larger in areas of low population density, and smaller in high-density areas. This means that rural zip codes can still include fairly substantial populations, simply because they occupy so much area.

### **Demand Locations Distant from Existing Hospital Locations**

We can evaluate the existing facility arrangement by allocating daily bed demand in each zip code to the closest facility up to any particular distance. The committee suggested 10 and 20-mile radii. This distance is not based on network distance but on Euclidean (“as the crow flies”) distance. Zip code locations that fall outside this distance represent sources of unmet demand. Arc 8.2, a full-featured geographic information system, was utilized to quantify this demand. We found that 1,887 beds per day were demanded by zip centroids more than 10 miles from the nearest existing hospital facility. This represents 12.7% of the average statewide daily bed demand. If a 20-mile radius is employed, unmet demand drops to 160 beds per day (1.1%). Maps 3.3, 3.4, 3.5, and 3.6 characterize this unmet demand for both distances for both the entire state and for southeastern Michigan.

It may be useful to consider the amount of demand allocated to each facility using this simplistic distance-based model. Allocated demand represents the average number of occupied beds for each zip code with a facility. Beds utilized per day for the 129 facilities under the 10-mile model range from 5.6 to 782, with a median bed demand of 46.1 and an inner quartile range (middle 50%) from 20.5 to 140.5 bed utilization. The average distance from a served demand point to its nearest facility is 4.7 miles. For the 20-mile model, average daily bed occupancy ranges from 8.4 to 782, with a median of 62.7 and an inner quartile range of 36.3 – 162.9. Served demand points are an average of 7.9 miles from their nearest facility. These higher utilization rates and distances (compared to the 10 mile radius model) are a direct function of the larger demand that is covered by the 20-mile radius. Neither model accounts for actual facility size, but numbers appear to be reasonable. As an example, note that the maximum occupancy, 782, is the same facility for both 10 and 20 mile models. This is



for zip code 48202, which happens to be the location of Henry Ford, the largest hospital in the state with 903 licensed beds.

### Optimal Constellations

We have determined that an optimal spatial constellation of community hospital facilities would situate facilities so that as much bed demand as possible is within a given distance of the nearest facility. This describes a Maxcover model. Executing this model requires that the number of facilities to position is known in advance, along with the covering distance (the radius in Figure 3.1). The number of facilities is set at 129 (the number of unique zip codes with existing facilities). The committee indicated that interesting distances to consider would be 10 and 20 miles. While the model environment can employ road network distance, the present analysis uses Euclidean distance as a rough proxy for travel time. Another section of this report uses road data to characterize accessibility, but this approach was not employed here.

Analysis was conducted in Arc 8.2 using the parameters just indicated and the data as described in the previous section. Table 3.1 describes the results of the 10 and 20-mile Maxcover models, as well as comparable statistics for the allocation of demand to the existing 129 facilities. Spatial representations of these optimal constellations of hospitals appear in Maps 3.7, 3.8, 3.9, and 3.10.

<b>Model</b>	<b>Unmet Demand (beds (%))</b>	<b>Avg Distance (miles)</b>	<b>Median Facility Demand (beds)</b>	<b>Maximum Facility Demand (beds)</b>
<b>10 mile existing</b>	1883.6 (12.7%)	4.7	46.1	782.1
<b>10 mile optimal</b>	509.9 (3.4%)	5.7	38.7	1245.5
<b>20 mile existing</b>	159.5 (1.1%)	7.9	62.7	782.1
<b>20 mile optimal</b>	0 (0%)	8.3	57.3	1397.4

**Table 3.1.** Comparison of key measures for different hospital demand allocation models.

The 10-mile optimal model does a clearly better job of capturing statewide demand within the critical radius than the existing constellation. Over 1,300 more beds per day are filled, indicating a substantial reduction in unmet demand over the existing configuration. An inspection of the maps indicates how this reduction has occurred. The optimal model has placed fewer hospitals in the Detroit area and has dispersed hospitals across more rural regions of the state, including the Thumb, the upper Lower Peninsula, and the western UP. As a consequence the median bed demand per facility has actually dropped slightly, while the reduced number of facilities in Detroit handle somewhat more people. Nevertheless, there is still a great degree of similarity in the overall pattern, and in fact 25 existing facility locations were independently chosen as facility locations by the optimal model. Four zip code centroids in the Detroit area (Grosse Pointe Park, Birmingham, River Rouge, Sterling Heights) are assigned more than one thousand beds each. However, average distance from demand points to the closest facility has increased over the existing model. Although more people are within 10 miles of a facility, they are traveling a mile farther on average.

### THE 20-MILE OPTIMAL MODEL IS ABLE TO CAPTURE ALL DEMAND IN THE

STATE. WHILE THIS SOUNDS IMPRESSIVE, IT DOES NOT ACTUALLY REPRESENT A SUBSTANTIAL IMPROVEMENT OVER THE EXISTING CONFIGURATION, BECAUSE MOST STATE DEMAND (98.9%) IS ALREADY WITHIN THIS DISTANCE OF AN EXISTING FACILITY. WHILE OPTIMAL FROM THE MAXCOVER PERSPECTIVE, THIS SOLUTION, LIKE THE 10-MILE SOLUTION, INCREASES THE AVERAGE DISTANCE TRAVELED. TWO ZIP CODE CENTROIDS IN THE DETROIT AREA (FERNDAL, GROSSE POINTE PARK) ARE ASSIGNED MORE THAN ONE THOUSAND BEDS EACH. THE MAPS INDICATE A GREAT DEGREE OF SIMILARITY WITH THE EXISTING HOSPITAL NETWORK. INDEED, 53 (OF 129) FACILITY LOCATIONS ARE IDENTICAL BETWEEN THE OPTIMAL 20-MILE MODEL AND THE EXISTING NETWORK. 25 OF THESE LOCATIONS ARE ALSO IN THE OPTIMAL 10-MILE MODEL!

The GIS implementation we employed is unable to incorporate capacity restraints in location models. This means that we assume that any facility can handle any amount of demand. It is certainly possible that unrealistic amounts of demand could descend upon individual facilities. The last few columns in Table 3.1 may be compared with the actual statistics on the distribution of licensed beds at the beginning of the Data section above to consider this problem. We see that the median demand is substantially lower than actual median bed capacity (106 beds) for the 10-mile models. While median bed demand is also less for the 20-mile model, it is not substantially different than the median hospital capacity multiplied by the average occupancy rate (0.594), or 63 beds. That is, on an average day in 2002, an average hospital has patients in 63 beds. Maximum bed demand values are also “in the ballpark”: the actual maximum number of licensed beds in any zip code is 1,809. This number, when multiplied by the average occupancy rate, is comparable to the maximum demanded by the optimal location models.

### **Optimal Facility Locations Given Existing Configuration**

The “blank slate” results described in the previous section is one way that location-allocation models can be employed. It is also possible to ‘fix’ sites at the 129 existing locations and identify the optimal 130th, 131st, and 132nd location, given the existing network. This was accomplished using Maxcover location models with 10 and 20-mile maximum distances, respectively. While there is no guarantee that a location chosen as optimal in an  $n$ -facility model will also be chosen in an  $n+1$  model, that is what happened here (the hospital location chosen for the 130th site was also one of the two chosen in the 132 site model and one of three chosen in the 133 site model). Table 3.2 provides some numbers about the facilities chosen, while Maps 3.11, 3.12, and 3.13 identify their locations.

<b>Model</b>	<b>Unmet Demand (beds/day)</b>	<b>% Improvement</b>	<b>Zip</b>	<b>Facility Size (beds/day)</b>
<b>10 mile existing</b>	1883.6	-	-	-
<b>10 mi. 1st new</b>	1812.8	3.7%	48371	108
<b>10 mi. 2nd</b>	1744.2	7.4%	48451	69
<b>10 mi. 3d</b>	1676.3	11.0%	48457	68
<b>20 mile existing</b>	159.5	-	-	-
<b>20 mi. 1st new</b>	129.2	19.0%	49632	58

<b>20 mi. 2nd</b>	103.2	35.3%	48619	33
<b>20 mi. 3d</b>	78.5	50.8%	49893	25

**Table 3.2.** Optimal sites for 1, 2, and 3 new hospitals, given the existing network.

WHEN ONE RUNS THE MAXCOVER MODEL WITH A 10-MILE MAXIMUM DISTANCE TO IDENTIFY 130 LOCATIONS, WITH 129 OF THEM 'FIXED' TO THE EXISTING FACILITY ZIP CODE CENTROIDS, THE MODEL IDENTIFIES 48371 AS THE BEST LOCATION FOR THE NEW FACILITY. AS THE MAP SHOWS, THIS ZIP CODE IS LOCATED IN NORTHERN OAKLAND COUNTY, AROUND THE TOWN OF OXFORD. AS THE TABLE SHOWS, UNMET DEMAND IS REDUCED BY 3.7 PERCENT USING THE ONE NEW HOSPITAL WITH THE 129 EXISTING HOSPITALS. THE NEW FACILITY SERVES AN AVERAGE OF 108 DEMAND PER DAY. STATEWIDE UNMET DEMAND IS NOT ACTUALLY REDUCED BY 108 BEDS BECAUSE PART OF THE SUPPLIED DEMAND FOR THE NEW FACILITY HAD BEEN SERVED BY EXISTING HOSPITALS.

When the same model is run to identify 131 locations, with 129 of them 'fixed' to the existing facility zip code centroids, the model identifies two zip codes (48371 and 48451) as the best locations for the two new facilities. 48451 is the zip code for Linden, in southern Genesee County. Combined, these hospitals reduce unmet demand by 7.4 percent. The Linden location serves 69 beds per day of demand. Finally, running the same model to find 132 locations, with 129 of them fixed, the three new locations that maximize coverage are 48371, 48451, and 48457. The 48457 zip code serves the town of Montrose in northwestern Genesee County. This new facility serves 68 beds per day of demand, and these 132 facilities handle 1676.3 demand per day, an 11 percent improvement over the existing 129 Michigan community hospitals. As the maps show, all three locations serve communities on the northern edge of the metropolitan Detroit region.

A very different set of solutions arises when the model is run with a 20-mile maximum distance. Maps 3.14, 3.15, and 3.16 illustrate facility locations using this model. For a single new facility, the model selects zip code 49632, near Falmouth in southeastern Missaukee County. This facility would serve 58 beds per day of demand, and would improve the existing 20 km model by 11%. For two new facilities, the model identifies 48619, serving the village of Comins in northeastern Oscoda County. This site serves 33 beds per day and, along with the other facilities, reduces statewide unmet demand to 103.2 beds per day, an improvement of 35.3% over the existing hospitals. If three new sites are chosen, the third choice is 49893, serving the town of Wallace in southern Menominee County near the Wisconsin border. This facility would serve 25 beds per day of nearby demand. The final site is an interesting example of boundary effects in spatial analysis. The nearby city of Menominee is a regional center but does not have a hospital; in fact, the closest hospital is just across the state line in Marinette, Wisconsin. However, hospitals in bordering states are not included in the data we worked with; similar issues may affect demand and allocation along the Ohio and Indiana borders as well.

### **Caveats**

It is hoped that the location-allocation results presented here are useful, but we wish to impress upon the reader that they should be viewed with some caution. It is important to be

clear about the limitations of the models employed in this work. There are always gaps between data and the phenomena they represent, and between process models and the complex real world that they attempt to emulate. This section briefly identifies several challenges for this modeling exercise.

*Data issues.* We performed this analysis using zip code centroids as proxies for the complex distribution of patients and hospital locations. This was primarily to ensure that the focus would remain on regional rather than site specific scales of analysis. The use of patient days data for a specific year provides a useful snapshot of the spatial distribution of demand at a particular moment. However, we are unable to quantify variability in occupancy either at sub-annual or inter-annual periods. We must assume that 2002 is a representative year, and that bed occupancy is roughly uniform throughout the year. More significantly perhaps, this data alone cannot account for longer-term demographic and technological trends that could substantially impact the geography of bed supply and demand. Just as the current constellation of community hospital facilities is a product of Michigan's past, so will these results become a relic of the situation in 2002 for a future generation.

*Model issues.* Four main issues are highlighted. First, the use of proxies for location and travel time – that is, the employment of zip code centroids for both facility location and demand origin, and the use of straight-line distance – is a simplification of the actual situation. The choice of zip code centroids has been defended in a previous section. Euclidean distance provides a useful first cut – in Michigan's township-range rural road system we might expect distances to be up to 1.4 times longer – but network distance might be preferable, and modeled travel time superior to that. However, this may introduce needless complications as well. Simpler is often better in the modeling realm. Second, patients choose hospitals for diverse reasons; spatial proximity is only one. For example, the geography of the referral network may be of particular relevance. Additionally, the importance of proximity is variable. In an emergency, having a facility within a few minutes of a household may make all the difference. For scheduled procedures that involve a stay in the hospital, this degree of proximity may be much less significant. Third, the outcome of these models is highly dependent on the selection of model form and of key input parameters. A P-median model optimal result is different from a Maxcover optimum. The results shown here suggest that changing the maximum coverage radius from 10 to 20 miles causes dramatic changes in the proportion of population covered, the optimal configuration of hospitals, or the identification of an optimum location for the 130th community hospital facility. Fourth, the software implementation used here cannot employ facility capacity information in the location model. This means that the model assumes that a facility can handle any amount of demand, when in fact hospitals are constrained by their number of beds. Although the results presented here suggests that this is not a serious problem for Michigan, which experiences average bed occupancy rates well below capacity, it would be preferable to use a system that can account for this.

## **Discussion**

The location-allocation models presented in section 3 of the report were intended to accomplish several objectives:

- Foster a discussion on the meaning of 'optimal locations', and to highlight the sometimes large differences between alternative models and their solutions
- Highlight important geographical characteristics of the existing demand and supply of licensed community hospital beds across the state

- Quantify the presence of bed demand – using actual data – that is distant from currently existing facilities
- Identify optimal locations for new hospitals, based on narrowly defined sets of criteria

We were able to quantify the quality of the spatial coverage provided by Michigan's existing constellation of community hospitals. Table 3.1 indicates that, using certain location models, the existing configuration is suboptimal but possesses desirable qualities, such as relatively short distances from most demand points to the nearest facility. In addition, many locales with existing facilities were also identified as optimal locations by the models. Second, we demonstrated that choice of key model parameters, such as the maximum distance, has a profound effect on the allocation of facilities. Although these models were comparable in some ways, they also showed substantial differences. Third, the identification of demand regions that are distant from existing facilities is a direct function of the maximum distance parameter. Consequently, the optimal siting of new facilities, given the 129 zip codes at which hospitals are currently situated, is profoundly affected by the distance parameter. In the analysis presented here, optimal locations were hundreds of miles apart due to a ten-mile change in the maximum distance.

## **Report Conclusions**

Michigan is clearly a state in transition. While the population as a whole is less dynamic than other states in the country, there are significant spatial and demographic transitions occurring internally. The process of selecting locations for new hospitals has been and continues to be rife with political activity if only for the significant financial investments and potential rewards involved. Using best scientific practice to identify locations of underserved populations based on many factors was the goal of this research project.

The statewide demographic information presented in Section 1 clearly depicts population trends in suburbanization, retirement location selection, and urbanization process of the rural population in the Upper Peninsula. Section 2 presents a spatial computational model of service based on travel times. Two specific underserved areas were identified that had populations of greater than 50,000 outside of 30 minutes travel time, while maintaining contiguity constraints. We feel these areas in particular merit additional consideration and research. Section 3 explored location-allocation optimization models for the current constellation of hospitals. Further, the next best hospital location was identified given the constraints of the model. Stepping back and considering hypothetical optimal constellations of facilities may shed valuable light on the existing configuration, identify useful spatial analytical tools, and provide a valuable spatial perspective on the challenge of assessing the impact of proposed hospital locations. We hope that these analyses will be useful to anyone considering the allocation of Michigan hospitals.

**MICHIGAN DEPARTMENT OF COMMUNITY HEALTH**

**CERTIFICATE OF NEED (CON) REVIEW STANDARDS FOR HOSPITAL BEDS**

(By authority conferred on the CON Commission by sections 22215 and 22217 of Act No. 368 of the Public Acts of 1978, as amended, and sections 7 and 8 of Act No. 306 of the Public Acts of 1969, as amended, being sections 333.22215, 333.22217, 24.207, and 24.208 of the Michigan Compiled Laws.)

**Section 1. Applicability**

Sec. 1. (1) These standards are requirements for approval and delivery of services for all projects approved and certificates of need issued under Part 222 of the Code that involve (a) increasing licensed beds in a hospital licensed under Part 215 or (b) physically relocating hospital beds from one licensed site to another geographic location or (c) replacing beds in a hospital or (d) acquiring a hospital or (e) beginning operation of a new hospital.

(2) A hospital licensed under Part 215 is a covered health facility for purposes of Part 222 of the Code.

(3) An increase in licensed hospital beds is a change in bed capacity for purposes of Part 222 of the Code.

(4) The physical relocation of hospital beds from a licensed site to another geographic location is a change in bed capacity for purposes of Part 222 of the Code.

(5) An increase in hospital beds certified for long-term care is a change in bed capacity for purposes of Part 222 of the Code and shall be subject to and reviewed under the CON Review Standards for Long-Term-Care Services.

(6) The Department shall use sections 3, 4, 5, 6, 7, 8, 10, 15, AND 16 of these standards and Section 2 of the Addendum for Projects for HIV Infected Individuals, as applicable, in applying Section 22225(1) of the Code, being Section 333.22225(1) of the Michigan Compiled Laws.

(7) The Department shall use Section 9 of these standards and Section 3 of the Addendum for Projects for HIV Infected Individuals, as applicable, in applying Section 22225(2)(c) of the Code, being Section 333.22225(2)(c) of the Michigan Compiled Laws.

**Section 2. Definitions**

Sec. 2. (1) As used in these standards:

(a) "Acquiring a hospital" means the issuance of a new hospital license as the result of the acquisition (including purchase, lease, donation, or other comparable arrangements) of a hospital with a valid license and which does not involve a change in bed capacity.

(b) "Alcohol and substance abuse hospital," for purposes of these standards, means a licensed hospital within a long-term (acute) care hospital that exclusively provides inpatient medical detoxification and medical stabilization and related outpatient services for persons who have a primary diagnosis of substance dependence covered by DRGs 433 - 437.

(c) "Base year" means the most recent year that final MIDB data is available to the Department unless a different year is determined to be more appropriate by the Commission.

(d) "Certificate of Need Commission" or "Commission" means the Commission created pursuant to Section 22211 of the code, being Section 333.22211 of the Michigan Compiled Laws.

(e) "Code" means Act No. 368 of the Public Acts of 1978, as amended, being Section 333.1101 et seq. of the Michigan Compiled Laws.

- (f) "Department" means the Michigan Department of Community Health (MDCH).
- (g) "Department inventory of beds" means the current list maintained for each hospital subarea on a continuing basis by the Department of (i) licensed hospital beds and (ii) hospital beds approved by a valid CON issued under either Part 221 or Part 222 of the Code that are not yet licensed. The term does not include hospital beds certified for long-term-care in hospital long-term care units.
- (h) "Discharge relevance factor" (%R) means a mathematical computation where the numerator is the inpatient hospital discharges from a specific zip code for a specified hospital subarea and the denominator is the inpatient hospital discharges for any hospital from that same specific zip code.
- (i) "Existing hospital beds" means, for a specific hospital subarea, the total of all of the following: (i) hospital beds licensed by the Department; (ii) hospital beds with valid CON approval but not yet licensed; (iii) proposed hospital beds under appeal from a final decision of the Department; and (iv) proposed hospital beds that are part of a completed application under Part 222 (other than the application under review) for which a proposed decision has been issued and which is pending final Department decision.
- (j) "Health service area" OR "HSA" means the groups of counties listed in Section 17.
- (k) "Hospital bed" means a bed within the licensed bed complement at a licensed site of a hospital licensed under Part 215 of the Code, excluding (i) hospital beds certified for long-term care as defined in Section 20106(6) of the Code and (ii) unlicensed newborn bassinets.
- (l) "Hospital" means a hospital as defined in Section 20106(5) of the Code being Section 333.20106(5) of the Michigan Compiled Laws and licensed under Part 215 of the Code. The term does not include a hospital or hospital unit licensed or operated by the Department of Mental Health.
- (m) "Hospital long-term-care unit" or "HLTCU" means a nursing care unit, owned or operated by and as part of a hospital, licensed by the Department, and providing organized nursing care and medical treatment to 7 or more unrelated individuals suffering or recovering from illness, injury, or infirmity.
- (n) "Hospital subarea" or "subarea" means a cluster or grouping of hospitals and the relevant portion of the state's population served by that cluster or grouping of hospitals. For purposes of these standards, hospital subareas and the hospitals assigned to each subarea are set forth in Appendix A.
- (o) "Host hospital," for purposes of these standards, means an existing licensed hospital, which delicensures hospital beds, and which leases patient care space and other space within the physical plant of the host hospital, to allow a long-term (acute) care hospital, or alcohol and substance abuse hospital, to begin operation.
- (p) "Licensed site" means either (i) in the case of a single site hospital, the location of the facility authorized by license and listed on that licensee's certificate of licensure or (ii) in the case of a hospital with multiple sites, the location of each separate and distinct inpatient unit of the health facility as authorized by license and listed on that licensee's certificate of licensure.
- (Q) "LIMITED ACCESS AREA" MEANS THOSE GEOGRAPHIC AREAS OF NOT LESS THAN 50,000 POPULATION BASED ON THE PLANNING YEAR AND NOT WITHIN 30 MINUTES DRIVE TIME OF AN EXISTING LICENSED ACUTE CARE HOSPITAL WITH 24 HOUR/7 DAYS A WEEK EMERGENCY SERVICES UTILIZING THE SLOWEST ROUTE AVAILABLE AS DEFINED BY THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) AND AS IDENTIFIED IN APPENDIX E. LIMITED ACCESS AREAS SHALL BE REDETERMINED WHEN A NEW HOSPITAL HAS BEEN APPROVED OR AN EXISTING HOSPITAL CLOSES.
- (R) "Long-term (acute) care hospital," for purposes of these standards, means a hospital has been approved to participate in the Title XVIII (Medicare) program as a prospective payment system (PPS) exempt hospital in accordance with 42 CFR Part 412.
- (S) "Market forecast factors" (%N) means a mathematical computation where the numerator is the number of total inpatient discharges indicated by the market survey forecasts and the denominator is the base year MIDB discharges.
- (T) "Medicaid" means title XIX of the social security act, chapter 531, 49 Stat. 620, 1396r-6 and 1396r-8 to 1396v.
- (U) "Metropolitan statistical area county" means a county located in a metropolitan statistical area as that term is defined under the "standards for defining metropolitan and micropolitan statistical areas" by the statistical policy office of the office of information and regulatory affairs of the United States office of management and budget, 65 F.R. p. 82238 (December 27, 2000) and as shown in Appendix B.
- (V) "Michigan Inpatient Data Base" or "MIDB" means the data base compiled by the Michigan Health and Hospital Association or successor organization. The data base consists of inpatient discharge

records from all Michigan hospitals and Michigan residents discharged from hospitals in border states for a specific calendar year.

(W) "Micropolitan statistical area county" means a county located in a micropolitan statistical area as that term is defined under the "standards for defining metropolitan and micropolitan statistical areas" by the statistical policy office of the office of information and regulatory affairs of the United States office of management and budget, 65 F.R. p. 82238 (December 27, 2000) and as shown in Appendix B.

(X) "New beds in a hospital" means hospital beds that meet at least one of the following: (i) are not currently licensed as hospital beds, (ii) are currently licensed hospital beds at a licensed site in one subarea which are proposed for relocation in a different subarea as determined by the Department pursuant to Section 3 of these standards, (iii) are currently licensed hospital beds at a licensed site in one subarea which are proposed for relocation to another geographic site which is in the same subarea as determined by the Department, but which are not in the replacement zone, or (iv) are currently licensed hospital beds that are proposed to be licensed as part of a new hospital in accordance with Section 6(2) of these standards.

(Y) "New hospital" means one of the following: (i) the establishment of a new facility that shall be issued a new hospital license, (ii) for currently licensed beds, the establishment of a new licensed site that is not in the same hospital subarea as the currently licensed beds, (iii) currently licensed hospital beds at a licensed site in one subarea which are proposed for relocation to another geographic site which is in the same subarea as determined by the Department, but which are not in the replacement zone, or (iv) currently licensed hospital beds that are proposed to be licensed as part of a new hospital in accordance with section 6(2) of these standards.

(Z) "Overbedded subarea" means a hospital subarea in which the total number of existing hospital beds in that subarea exceeds the subarea needed hospital bed supply as set forth in Appendix C.

(AA) "Planning year" means five years beyond the base year, established by the CON Commission, for which hospital bed need is developed, unless a different year is determined to be more appropriate by the Commission.

(BB) "Relevance index" or "market share factor" (%Z) means a mathematical computation where the numerator is the number of inpatient hospital patient days provided by a specified hospital subarea from a specific zip code and the denominator is the total number of inpatient hospital patient days provided by all hospitals to that specific zip code using MIDB data.

(CC) "Relocate existing licensed hospital beds" for purposes of Section 8 of these standards, means a change in the location of existing hospital beds from the existing licensed hospital site to a different existing licensed hospital site within the same hospital subarea. This definition does not apply to projects involving replacement beds in a hospital governed by Section 7 of these standards.

(DD) "Replacement beds in a hospital" means hospital beds that meet all of the following conditions; (i) an equal or greater number of hospital beds are currently licensed to the applicant at the licensed site at which the proposed replacement beds are currently licensed; (ii) the hospital beds are proposed for replacement in new physical plant space being developed in new construction or in newly acquired space (purchase, lease, donation, etc.); and (iii) the hospital beds to be replaced will be located in the replacement zone.

(EE) "Replacement zone" means a proposed licensed site that is (i) in the same subarea as the existing licensed site as determined by the Department in accord with Section 3 of these standards and (ii) on the same site, on a contiguous site, or on a site within 2 miles of the existing licensed site if the existing licensed site is located in a county with a population of 200,000 or more, or on a site within 5 miles of the existing licensed site if the existing licensed site is located in a county with a population of less than 200,000.

(FF) "Rural county" means a county not located in a metropolitan statistical area or micropolitan statistical areas as those terms are defined under the "standards for defining metropolitan and micropolitan statistical areas" by the statistical policy office of the office of information regulatory affairs of the United States office of management and budget, 65 F.R. p. 82238 (December 27, 2000) and as shown in Appendix B.

(GG) "Utilization rate" or "use rate" means the number of days of inpatient care per 1,000 population during a one-year period.

(HH) "Zip code population" means the latest population estimates for the base year and projections for the planning year, by zip code.



(2) The definitions in Part 222 shall apply to these standards.

### Section 3. Hospital subareas

Sec. 3. (1)(a) Each existing hospital is assigned to a hospital subarea as set forth in Appendix A which is incorporated as part of these standards, until Appendix A is revised pursuant to this subsection.

(i) These hospital subareas, and the assignments of hospitals to subareas, shall be updated, at the direction of the Commission, starting in May 2003, to be completed no later than November 2003. Thereafter, at the direction of the Commission, the updates shall occur no later than two years after the official date of the federal decennial census, provided that:

(A) Population data at the federal zip code level, derived from the federal decennial census, are available; and final MIDB data are available to the Department for that same census year.

(b) For an application involving a proposed new licensed site for a hospital (whether new or replacement), the proposed new licensed site shall be assigned to an existing hospital subarea utilizing a market survey conducted by the applicant and submitted with the application. The market survey shall provide, at a minimum, forecasts of the number of inpatient discharges for each zip code that the proposed new licensed site shall provide service. The forecasted numbers must be for the same year as the base year MIDB data. The market survey shall be completed by the applicant using accepted standard statistical methods. The market survey must be submitted on a computer media and in a format specified by the Department. The market survey, if determined by the Department to be reasonable pursuant to Section 14, shall be used by the Department to assign the proposed new site to an existing subarea based on the methodology described by "The Specification of Hospital Service Communities in a Large Metropolitan Area" by J. William Thomas, Ph.D., John R. Griffith, and Paul Durance, April 1979 as follows:

(i) For the proposed new site, a discharge relevance factor for each of the zip codes identified in the application will be computed. Zip codes with a market forecast factor of less than .05 will be deleted from consideration.

(ii) The base year MIDB data will be used to compute discharge relevance factors (%Rs) for each hospital subarea for each of the zip codes identified in step (i) above. Hospital subareas with a %R of less than .10 for all zip codes identified in step (i) will be deleted from the computation.

(iii) The third step in the methodology is to calculate a population-weighted average discharge relevance factor  $\bar{R}_j$  for the proposed hospital and existing subareas. Letting:

$P_i$  = Population of zip code  $i$ .

$d_{ij}$  = Number of patients from zip code  $i$  treated at hospital  $j$ .

$D_i = \sum_j d_{ij}$  = Total patients from zip code  $i$ .

$I_j = \{i \mid (d_{ij}/D_i) \geq \alpha\}$ , set of zip codes for which the individual relevance factor [%R from (i) and (ii) above] values  $(d_{ij}/D_i)$  of hospital  $j$  exceeds or equals  $\alpha$ , where  $\alpha$  is specified  $0 \leq \alpha \leq 1$ .

$$\text{then } \bar{R}_j = \frac{\sum_{i \in I_j} P_i (d_{ij}/D_i)}{\sum_{i \in I_j} P_i}$$

(iv) After  $\bar{R}_j$  is calculated for the applicant(s) and the included existing subareas, the hospital/subarea with the smallest  $\bar{R}_j$  ( $S \bar{R}_j$ ) is grouped with the hospital/subarea having the greatest individual discharge relevance factor in the  $S \bar{R}_j$ 's home zip code.  $S \bar{R}_j$ 's home zip code is defined as the zip code from  $S \bar{R}_j$ 's with the greatest discharge relevance factor.

(v) If there is only a single applicant, then the assignment procedure is complete. If there are additional applicants, then steps (iii), and (iv) must be repeated until all applicants have been assigned to an existing subarea.

(2) The Commission shall amend Appendix A to reflect: (a) approved new licensed site(s) assigned to a specific hospital subarea; (b) hospital closures; and (c) licensure action(s) as appropriate.

(3) As directed by the Commission, new sub-area assignments established according to subsection (1)(a)(i) shall supersede Appendix A and shall be included as an amended appendix to these standards effective on the date determined by the Commission.

#### **Section 4. Determination of the needed hospital bed supply**

Sec. 4. (1) The determination of the needed hospital bed supply for a LIMITED ACCESS AREA AND A hospital subarea for a planning year shall be made using the MIDB and population estimates and projections by zip code in the following methodology:

(a) All hospital discharges for normal newborns (DRG 391) and psychiatric patients (ICD-9-CM codes 290 through 319 as a principal diagnosis) will be excluded.

(b) For each DISCHARGE FROM THE SELECTED ZIP CODES FOR A LIMITED ACCESS AREA OR EACH hospital subarea DISCHARGE, AS APPLICABLE, calculate the number of patient days (take the patient days for each discharge and accumulate it within the respective age group) for the following age groups: ages 0 (excluding normal newborns) through 14 (pediatric), ages 15 through 44, female ages 15 through 44 (DRGs 370 through 375 – obstetrical discharges), ages 45 through 64, ages 65 through 74, and ages 75 and older. Data from non-Michigan residents are to be included for each specific age group. Data from non-Michigan residents are to be included for each specific age group. FOR LIMITED ACCESS AREAS, PROCEED TO SECTION 4(1)(E).

(c) For each hospital subarea, calculate the relevance index (%Z) for each zip code and for each of the following age groups: ages 0 (excluding normal newborns) through 14 (pediatric), ages 15 through 44, female ages 15 through 44 (DRGs 370 THROUGH 375 – obstetrical discharges), ages 45 through 64, ages 65 through 74, and ages 75 and older.

(d) For each hospital subarea, multiply each zip code %Z calculated in (c) by its respective base year zip code and age group specific year population. The result will be the zip code allocations by age group for each subarea.

(e) For each LIMITED ACCESS AREA OR hospital subarea, AS APPLICABLE, calculate the subarea base year population by age group by adding together all zip code population allocations calculated in (d) for each specific age group in that subarea. FOR A LIMITED ACCESS AREA, ADD TOGETHER THE AGE GROUPS IDENTIFIED FOR THE LIMITED ACCESS AREA. The result will be six population age groups for each LIMITED ACCESS AREA OR subarea, AS APPLICABLE.

(f) For each LIMITED ACCESS AREA OR hospital subarea, AS APPLICABLE, calculate the patient day use rates for ages 0 (excluding normal newborns) through 14 (pediatric), ages 15 through 44, female ages 15 through 44 (DRGs 370 THROUGH 375 – obstetrical discharges), ages 45 through 64, ages 65 through 74, and ages 75 and older by dividing the results of (b) by the results of (e). FOR LIMITED ACCESS AREAS, PROCEED TO SECTION 4(1)(H).

(g) For each hospital subarea, multiply each zip code %Z calculated in (c) by its respective planning year zip code and age group specific year population. The results will be the projected zip code allocations by age group for each subarea.

(h) For each hospital subarea, calculate the subarea projected year population by age group by adding together all projected zip code population allocations calculated in (g) for each specific age group. FOR A LIMITED ACCESS AREA, ADD TOGETHER THE AGE GROUPS IDENTIFIED FOR THE LIMITED ACCESS AREA. The result will be six population age groups for each LIMITED ACCESS AREA OR subarea, AS APPLICABLE.

(i) For each LIMITED ACCESS AREA OR hospital subarea, AS APPLICABLE, calculate the LIMITED ACCESS AREA OR HOSPITAL subarea, AS APPLICABLE, projected patient days for each age group by multiplying the six projected populations by age group calculated in step (h) by the age specific use rates identified in step (f).

(j) For each LIMITED ACCESS AREA OR hospital subarea, AS APPLICABLE, calculate the adult medical/surgical LIMITED ACCESS AREA OR HOSPITAL subarea, AS APPLICABLE, projected patient days by adding together the following age group specific projected patient days calculated in (i): ages 15

through 44, ages 45 through 64, ages 65 through 74, and ages 75 and older. The 0 (excluding normal newborns) through 14 (pediatric) and female ages 15 through 44 (DRGs 370 through 375 – obstetrical discharges) age groups remain unchanged as calculated in (i).

(k) For each LIMITED ACCESS AREA OR hospital subarea, AS APPLICABLE, calculate the LIMITED ACCESS AREA OR HOSPITAL subarea, AS APPLICABLE, projected average daily census (ADC) for three age groups: Ages 0 (excluding normal newborns) through 14 (pediatric), female ages 15 through 44 (DRGs 370 through 375 – obstetrical discharges), and adult medical surgical by dividing the results calculated in (j) by 365 (or 366 if the planning year is a leap year). Round each ADC to a whole number. This will give three ADC computations per LIMITED ACCESS AREA OR subarea, AS APPLICABLE.

(l) For each LIMITED ACCESS AREA OR hospital subarea, AS APPLICABLE, and age group, select the appropriate occupancy rate from the occupancy rate table in Appendix D.

(m) For each LIMITED ACCESS AREA OR hospital subarea, AS APPLICABLE, and age group, calculate the LIMITED ACCESS AREA OR subarea, AS APPLICABLE, projected bed need number of hospital beds for the LIMITED ACCESS AREA OR subarea, AS APPLICABLE, by age group by dividing the ADC calculated in (k) by the appropriate occupancy rate determined in (l). To obtain the total LIMITED ACCESS AREA OR hospital, AS APPLICABLE, bed need, add the three age group bed projections together. Round any part of a bed up to a whole bed.

## **Section 5. Bed Need**

Sec. 5. (1) The bed-need numbers incorporated as part of these standards as Appendix C shall apply to projects subject to review under these standards, except where a specific CON review standard states otherwise.

(2) The Commission shall direct the Department, effective November 2004 and every two years thereafter, to re-calculate the acute care bed need methodology in Section 4, within a specified time frame.

(3) The Commission shall designate the base year and the future planning year which shall be utilized in applying the methodology pursuant to subsection (2).

(4) When the Department is directed by the Commission to apply the methodology pursuant to subsection (2), the effective date of the bed-need numbers shall be established by the Commission.

(5) As directed by the Commission, new bed-need numbers established by subsections (2) and (3) shall supersede the bed-need numbers shown in Appendix C and shall be included as an amended appendix to these standards.

## **Section 6. Requirements for approval -- new beds in a hospital**

Sec. 6. (1) An applicant proposing new beds in a hospital, except an applicant meeting the requirements of subsection 2, 3, 4, OR 5 shall demonstrate that it meets all of the following:

(a) The new beds in a hospital shall result in a hospital of at least 200 beds in a metropolitan statistical area county or 50 beds in a rural or micropolitan statistical area county. This subsection may be waived by the Department if the Department determines, in its sole discretion, that a smaller hospital is necessary or appropriate to assure access to health-care services.

(b) The total number of existing hospital beds in the subarea to which the new beds will be assigned does not currently exceed the needed hospital bed supply as set forth in Appendix C. The Department shall determine the subarea to which the beds will be assigned in accord with Section 3 of these standards.

(c) Approval of the proposed new beds in a hospital shall not result in the total number of existing hospital beds, in the subarea to which the new beds will be assigned, exceeding the needed hospital bed supply as set forth in Appendix C. The Department shall determine the subarea to which the beds will be assigned in accord with Section 3 of these standards.

(2) An applicant proposing to begin operation as a new long-term (acute) care hospital or alcohol and substance abuse hospital within an existing licensed, host hospital shall demonstrate that it meets all of the requirements of this subsection:

(a) If the long-term (acute) care hospital applicant described in this subsection does not meet the Title XVIII requirements of the Social Security Act for exemption from PPS as a long-term (acute) care hospital within 12 months after beginning operation, then it may apply for a six-month extension in accordance with R325.9403 of the CON rules. If the applicant fails to meet the Title XVIII requirements for PPS exemption as a long-term (acute) care hospital within the 12 or 18-month period, then the CON granted pursuant to this section shall expire automatically.

(b) The patient care space and other space to establish the new hospital is being obtained through a lease arrangement between the applicant and the host hospital. The initial, renewed, or any subsequent lease shall specify at least all of the following:

(i) That the host hospital shall delicense the same number of hospital beds proposed by the applicant for licensure in the new hospital.

(ii) That the proposed new beds shall be for use in space currently licensed as part of the host hospital.

(iii) That upon non-renewal and/or termination of the lease, upon termination of the license issued under Part 215 of the act to the applicant for the new hospital, or upon noncompliance with the project delivery requirements or any other applicable requirements of these standards, the beds licensed as part of the new hospital must be disposed of by one of the following means:

(A) Relicensure of the beds to the host hospital. The host hospital must obtain a CON to acquire the long-term (acute) care hospital. In the event that the host hospital applies for a CON to acquire the long-term (acute) care hospital [including the beds leased by the host hospital to the long-term (acute) care hospital] within six months following the termination of the lease with the long-term (acute) care hospital, it shall not be required to be in compliance with the hospital bed supply set forth in Appendix C if the host hospital proposes to add the beds of the long-term (acute) care hospital to the host hospital's medical/surgical licensed capacity and the application meets all other applicable project delivery requirements. The beds must be used for general medical/surgical purposes. Such an application shall not be subject to comparative review and shall be processed under the procedures for non-substantive review (as this will not be considered an increase in the number of beds originally licensed to the applicant at the host hospital);

(B) Delicensure of the hospital beds; or

(C) Acquisition by another entity that obtains a CON to acquire the new hospital in its entirety and that entity must meet and shall stipulate to the requirements specified in Section 6(2).

(c) The applicant or the current licensee of the new hospital shall not apply, initially or subsequently, for CON approval to initiate any other CON covered clinical services; provided, however, that this section is not intended, and shall not be construed in a manner which would prevent the licensee from contracting and/or billing for medically necessary covered clinical services required by its patients under arrangements with its host hospital or any other CON approved provider of covered clinical services.

(d) The new licensed hospital shall remain within the host hospital.

(e) The new hospital shall be assigned to the same subarea as the host hospital.

(f) The proposed project to begin operation of a new hospital, under this subsection, shall constitute a change in bed capacity under Section 1(3) of these standards.

(g) The lease will not result in an increase in the number of licensed hospital beds in the subarea.

(h) Applications proposing a new hospital under this subsection shall not be subject to comparative review.

(3) An applicant proposing to add new hospital beds, as the receiving licensed hospital under Section 8, shall demonstrate that it meets all of the requirements of this subsection and shall not be required to be in compliance with the needed hospital bed supply set forth in Appendix C if the application meets all other applicable CON review standards and agrees and assures to comply with all applicable project delivery requirements.

(a) The approval of the proposed new hospital beds shall not result in an increase in the number of licensed hospital beds in the subarea.

(b) The proposed project to add new hospital beds, under this subsection, shall constitute a change in bed capacity under Section 1(3) of these standards.

(c) Applicants proposing to add new hospital beds under this subsection shall not be subject to comparative review.

(4) An applicant may apply for the addition of new beds if all of the following subsections are met. Further, an applicant proposing new beds at an existing licensed hospital site shall not be required to be in compliance with the needed hospital bed supply set forth in Appendix C if the application meets all other applicable CON review standards and agrees and assures to comply with all applicable project delivery requirements.

(a) The beds are being added at the existing licensed hospital site.

(b) The hospital at the existing licensed hospital site has operated as follows for the previous, consecutive 12 months based on its existing licensed hospital bed capacity as documented on the most recent reports of the "Annual Hospital Statistical Questionnaire" or more current verifiable data:

Number of Licensed Hospital Beds	Average Occupancy
Fewer than 300	80% and above
300 or more	85% and above

(c) The number of beds that may be approved pursuant to this subsection shall be the number of beds necessary to reduce the occupancy rate for the hospital to 80 percent for hospitals with licensed beds of 300 or more and to 75 percent for hospitals with licensed beds of fewer than 300. The number of beds shall be calculated as follows:

(i) Divide the actual number of patient days of care provided during the most recent, consecutive 12-month period for which verifiable data are available to the department by .80 for hospitals with licensed beds of 300 or more and by .75 for hospitals with licensed beds of fewer than 300 to determine licensed bed days at 80 percent occupancy or 75 percent occupancy as applicable;

(ii) Divide the result of step (i) by 365 (or 366 for leap years) and round the result up to the next whole number;

(iii) Subtract the number of licensed beds as documented on the "Department Inventory of Beds" from the result of step (ii) and round the result up to the next whole number to determine the maximum number of beds that may be approved pursuant to this subsection.

(d) A LICENSED ACUTE CARE HOSPITAL THAT HAS RELOCATED ITS BEDS SHALL NOT APPLY FOR HOSPITAL BEDS UNDER THIS SUBSECTION FOR FIVE YEARS FROM THE EFFECTIVE DATE OF THE RELOCATION OF BEDS.

(e) Applicants proposing to add new hospital beds under this subsection shall not be subject to comparative review.

(F) APPLICANTS PROPOSING TO ADD NEW HOSPITAL BEDS UNDER THIS SUBSECTION SHALL DEMONSTRATE TO THE DEPARTMENT THAT THEY HAVE PURSUED ALL POSSIBLE OPPORTUNITIES TO RELOCATE ACUTE CARE BEDS FROM OTHER LICENSED ACUTE CARE HOSPITALS WITHIN THE HSA. AT THE TIME AN APPLICATION IS SUBMITTED TO THE DEPARTMENT, THE APPLICANT SHALL DEMONSTRATE THAT CONTACT WAS MADE BY ONE CERTIFIED MAIL RETURN RECEIPT FOR EACH ORGANIZATION CONTACTED.

(5) **AN APPLICANT PROPOSING A NEW HOSPITAL IN A LIMITED ACCESS AREA** SHALL NOT BE REQUIRED TO BE IN COMPLIANCE WITH THE NEEDED HOSPITAL BED SUPPLY SET FORTH IN APPENDIX C IF THE APPLICATION MEETS ALL OTHER APPLICABLE CON REVIEW STANDARDS, AGREES AND ASSURES TO COMPLY WITH ALL APPLICABLE PROJECT DELIVERY REQUIREMENTS, AND ALL OF THE FOLLOWING SUBSECTIONS ARE MET.

(A) THE PROPOSED NEW HOSPITAL, UNLESS A CRITICAL ACCESS HOSPITAL, SHALL HAVE 24 HOUR/7 DAYS A WEEK EMERGENCY SERVICES, OBSTETRICAL SERVICES, SURGICAL SERVICES, AND LICENSED ACUTE CARE BEDS.

(B) THE DEPARTMENT SHALL ASSIGN THE PROPOSED NEW HOSPITAL TO AN EXISTING SUBAREA BASED ON THE CURRENT MARKET USE PATTERNS OF EXISTING SUBAREAS.

(C) **APPROVAL OF THE PROPOSED NEW BEDS IN A HOSPITAL IN A LIMITED ACCESS AREA SHALL NOT EXCEED THE BED NEED FOR THE LIMITED ACCESS AREA AS DETERMINED BY THE BED NEED METHODOLOGY IN SECTION 4 AND AS SET FORTH IN APPENDIX E.**

(D) **THE NEW BEDS IN A HOSPITAL IN A LIMITED ACCESS AREA SHALL RESULT IN A HOSPITAL OF AT LEAST 100 BEDS IN A METROPOLITAN STATISTICAL AREA COUNTY OR 50 BEDS IN A RURAL OR MICROPOLITAN STATISTICAL AREA COUNTY. IF THE BED NEED FOR A LIMITED ACCESS AREA, AS SHOWN IN APPENDIX E, IS LESS, THEN THAT WILL BE THE MINIMUM NUMBER OF BEDS FOR A NEW HOSPITAL UNDER THIS PROVISION. IF AN APPLICANT FOR NEW BEDS IN A HOSPITAL UNDER THIS PROVISION SIMULTANEOUSLY APPLIES FOR STATUS AS A CRITICAL ACCESS HOSPITAL, THE MINIMUM HOSPITAL SIZE SHALL BE THAT NUMBER ALLOWED UNDER STATE/FEDERAL CRITICAL ACCESS HOSPITAL DESIGNATION.**

(E) APPLICANTS PROPOSING TO CREATE A NEW HOSPITAL UNDER THIS SUBSECTION SHALL BE PROHIBITED FROM CON SUBMISSION AND APPROVAL, FOR A PERIOD OF FIVE YEARS AFTER BEGINNING OPERATION OF THE FACILITY, OF THE FOLLOWING COVERED

CLINICAL SERVICES: (I) OPEN HEART SURGERY, (II) THERAPEUTIC CARDIAC CATHETERIZATION, (III) FIXED POSITRON EMISSION TOMOGRAPHY (PET) SERVICES, (IV) ALL TRANSPLANT SERVICES, (V) NEONATAL INTENSIVE CARE SERVICES/BEDS, AND (VI) FIXED URINARY EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (UESWL) SERVICES.

(F) APPLICANTS PROPOSING TO ADD NEW HOSPITAL BEDS UNDER THIS SUBSECTION SHALL BE PROHIBITED FROM RELOCATING THE NEW HOSPITAL BEDS FOR A PERIOD OF 10 YEARS.

(G) AN APPLICANT PROPOSING TO ADD A NEW HOSPITAL PURSUANT TO THIS SUBSECTION SHALL LOCATE THE NEW HOSPITAL AS FOLLOWS:

(I) IN A METROPOLITAN STATISTICAL AREA COUNTY, AN APPLICANT PROPOSING TO ADD A NEW HOSPITAL PURSUANT TO THIS SUBSECTION SHALL LOCATE THE NEW HOSPITAL WITHIN THE LIMITED ACCESS AREA AND SERVE A POPULATION OF 50,000 OR MORE INSIDE THE LIMITED ACCESS AREA AND WITHIN 30 MINUTES DRIVE TIME FROM THE PROPOSED NEW HOSPITAL.

(II) IN A **RURAL OR MICROPOLITAN STATISTICAL AREA COUNTY, AN APPLICANT** PROPOSING TO ADD A NEW HOSPITAL PURSUANT TO THIS SUBSECTION SHALL LOCATE THE NEW HOSPITAL WITHIN THE LIMITED ACCESS AREA AND SERVE A POPULATION OF 50,000 OR MORE INSIDE THE LIMITED ACCESS AREA AND WITHIN 60 MINUTES DRIVE TIME FROM THE PROPOSED NEW HOSPITAL.

(III) IF AN EXISTING HOSPITAL IS PROPOSING TO RELOCATE EXISTING ACUTE CARE HOSPITAL BEDS TO CREATE A CRITICAL ACCESS HOSPITAL WITHIN THE SAME HSA, THE PROPOSED CRITICAL ACCESS HOSPITAL SHALL BE LOCATED WITHIN THE LIMITED ACCESS AREA AND SERVE A POPULATION OF 15,000 OR MORE INSIDE THE LIMITED ACCESS AREA AND WITHIN 30 MINUTES DRIVE TIME OF THE PROPOSED NEW HOSPITAL.

#### **Section 7. Requirements for approval -- replacement beds in a hospital in a replacement zone**

Sec. 7. (1) If the application involves the development of a new licensed site, an applicant proposing replacement beds in a hospital in the replacement zone shall demonstrate that the new beds in a hospital shall result in a hospital of at least 200 beds in a metropolitan statistical area county or 50 beds in a rural or micropolitan statistical area county. This subsection may be waived by the Department if the Department determines, in its sole discretion, that a smaller hospital is necessary or appropriate to assure access to health-care services.

(2) In order to be approved, the applicant shall propose to (i) replace an equal or lesser number of beds currently licensed to the applicant at the licensed site at which the proposed replacement beds are located, and (ii) that the proposed new licensed site is in the replacement zone.

(3) An applicant proposing replacement beds in the replacement zone shall not be required to be in compliance with the needed hospital bed supply set forth in Appendix C if the application meets all other applicable CON review standards and agrees and assures to comply with all applicable project delivery requirements.

#### **Section 8. Requirements for approval of an applicant proposing to relocate existing licensed hospital beds**

Sec 8. (1) The proposed project to relocate beds, under this section, shall constitute a change in bed capacity under Section 1(4) of these standards.

Attachment D

(2) Any existing licensed acute care hospital may relocate all or a portion of its beds to another existing licensed acute care hospital located within the same subarea according to the provisions in this section.

(3) The hospital from which the beds are being relocated, and the hospital receiving the beds, shall not require any ownership relationship.

(4) The relocated beds shall continue to be counted in the inventory for the subarea but licensed to the recipient hospital.

(5) The relocation of beds from any other licensed acute care hospital within the subarea to any licensed acute care hospital within the subarea, shall not be subject to a mileage limitation.

### **Section 9. Project delivery requirements -- terms of approval for all applicants**

Sec. 9. (1) An applicant shall agree that, if approved, the project shall be delivered in compliance with the following terms of CON approval:

- (a) Compliance with these standards
- (b) Compliance with applicable operating standards
- (c) Compliance with the following quality assurance standards:

(i) The applicant shall provide the Department with a notice stating the date the hospital beds are placed in operation and such notice shall be submitted to the Department consistent with applicable statute and promulgated rules.

(ii) The applicant shall assure compliance with Section 20201 of the Code, being Section 333.20201 of the Michigan Compiled Laws.

(iii) The applicant shall participate in a data collection network established and administered by the Department or its designee. The data may include, but is not limited to, annual budget and cost information and demographic, diagnostic, morbidity, and mortality information, as well as the volume of care provided to patients from all payor sources. The applicant shall provide the required data on a separate basis for each licensed site; in a format established by the Department, and in a mutually agreed upon media. The Department may elect to verify the data through on-site review of appropriate records.

(A) The applicant shall participate and submit data to the Michigan Inpatient Data Base (MIDB). The data shall be submitted to the Department or its designee.

(iv) An applicant shall participate in Medicaid at least 12 consecutive months within the first two years of operation and continue to participate annually thereafter.

(d) The applicant, to assure appropriate utilization by all segments of the Michigan population, shall:

- (i) Not deny services to any individual based on ability to pay or source of payment.
- (ii) Maintain information by source of payment to indicate the volume of care from each payor and non-payor source provided annually.

(iii) Provide services to any individual based on clinical indications of need for the services.

(2) The agreements and assurances required by this section shall be in the form of a certification authorized by the governing body of the applicant or its authorized agent.

### **Section 10. Rural, micropolitan statistical area, and metropolitan statistical area Michigan counties**

Sec. 10. Rural, micropolitan statistical area, and metropolitan statistical area Michigan counties, for purposes of these standards, are incorporated as part of these standards as Appendix B. The Department may amend Appendix B as appropriate to reflect changes by the statistical policy office of the office of information and regulatory affairs of the United States office of management and budget.

### **Section 11. Department inventory of beds**

Attachment D

Sec. 11. The Department shall maintain and provide on request a listing of the Department inventory of beds for each subarea. HOSPITALS THAT HAVE STATE/FEDERAL CRITICAL ACCESS HOSPITAL DESIGNATION ARE EXCLUDED FROM THE BED INVENTORY.

### **Section 12. Effect on prior planning policies; comparative reviews**



Sec. 12. (1) These CON review standards supersede and replace the CON standards for hospital beds approved by the CON Commission on MARCH 9, 2004 and effective JUNE 4, 2004.

(2) Projects reviewed under these standards shall be subject to comparative review except those projects meeting the requirements of Section 7 involving the replacement of beds in a hospital within the replacement zone and projects involving acquisition (including purchase, lease, donation or comparable arrangements) of a hospital.

### **Section 13. Additional requirements for applications included in comparative reviews**

Sec. 13. (1) Any application subject to comparative review under Section 22229 of the Code being Section 333.22229 of the Michigan Compiled Laws or these standards shall be grouped and reviewed with other applications in accordance with the CON rules applicable to comparative reviews.

(2) Each application in a comparative review group shall be individually reviewed to determine whether the application has satisfied all the requirements of Section 22225 of the Code being Section 333.22225 of the Michigan Compiled Laws and all other applicable requirements for approval in the Code and these standards. If the Department determines that one or more of the competing applications satisfies all of the requirements for approval, these projects shall be considered qualifying projects. The Department shall approve those qualifying projects which, taken together, do not exceed the need, as defined in Section 22225(1), in the order the Department determines the projects most fully promote the availability of quality health services at reasonable cost.

### **Section 14. Documentation of market survey**

Sec. 14. An applicant required to conduct a market survey under Section 3 shall specify how the market survey was developed. This specification shall include a description of the data source(s) used, assessments of the accuracy of these data, and the statistical method(s) used. Based on this documentation, the Department shall determine if the market survey is reasonable.

### **Section 15. Requirements for approval -- acquisition of a hospital**

Sec. 15. (1) An applicant proposing to acquire a hospital shall not be required to be in compliance with the needed hospital bed supply set forth in Appendix C for the subarea in which the hospital subject to the proposed acquisition is assigned if the applicant demonstrates that all of the following are met:

- (a) the acquisition will not result in a change in bed capacity,
- (b) the licensed site does not change as a result of the acquisition,
- (c) the project is limited solely to the acquisition of a hospital with a valid license, and
- (d) if the application is to acquire a hospital, which was proposed in a prior application to be established as a long-term (acute) care hospital (LTAC) and which received CON approval, the applicant also must meet the requirements of Section 6(2). Those hospitals that received such prior approval are so identified in Appendix A.

### **XIII. Section 16. Requirements for approval – all applicants**

Sec. 16. An applicant shall provide verification of Medicaid participation at the time the application is submitted to the Department. If the required documentation is not submitted with the application on the designated application date, the application will be deemed filed on the first applicable designated application date after all required documentation is received by the Department.

Attachment D

### **Section 17. Health service areas**

Sec. 17. Counties assigned to each of the health service areas are as follows:

<b>HSA</b>	<b>COUNTIES</b>
Hospital Bed Standard Advisory Committee Meeting	
Wednesday, November 10, 2004	

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1 - Southeast	Livingston Macomb Wayne	Monroe Oakland	St. Clair Washtenaw
2 - Mid-Southern	Clinton Eaton	Hillsdale Ingham	Jackson Lenawee
3 - Southwest	Barry Berrien Branch	Calhoun Cass Kalamazoo	St. Joseph Van Buren
4 - West	Allegan Ionia Kent Lake	Mason Mecosta Montcalm Muskegon	Newaygo Oceana Osceola Ottawa
5 - GLS	Genesee	Lapeer	Shiawassee
6 - East	Arenac Bay Clare Gladwin Gratiot	Huron Iosco Isabella Midland Ogemaw	Roscommon Saginaw Sanilac Tuscola
7 - Northern Lower	Alcona Alpena Antrim Benzie Charlevoix Cheboygan	Crawford Emmet Gd Traverse Kalkaska Leelanau Manistee	Missaukee Montmorency Oscoda Otsego Presque Isle Wexford
8 - Upper Peninsula	Alger Baraga Chippewa Delta Dickinson	Gogebic Houghton Iron Keweenaw Luce	Mackinac Marquette Menominee Ontonagon Schoolcraft

**CON REVIEW STANDARDS  
FOR HOSPITAL BEDS**

**HOSPITAL SUBAREA ASSIGNMENTS**

<b>Health Service Area</b>	<b>Sub Area</b>	<b>Hospital Name</b>	<b>City</b>
=====			
=====			
<b>1 - Southeast</b>			
	1A	North Oakland Med Centers (Fac #63-0110)	Pontiac
	1A	Pontiac Osteopathic Hospital (Fac #63-0120)	Pontiac
	1A	St. Joseph Mercy – Oakland (Fac #63-0140)	Pontiac
	1A	Select Specialty Hospital - Pontiac (LTAC - FAC #63-0172)*	Pontiac
	1A	Crittenton Hospital (Fac #63-0070)	Rochester
	1A	Huron Valley – Sinai Hospital (Fac #63-0014)	Commerce Township
	1A	Wm Beaumont Hospital (Fac #63-0030)	Royal Oak
	1A	Wm Beaumont Hospital – Troy (Fac #63-0160)	Troy
	1A	Providence Hospital (Fac #63-0130)	Southfield
	1A	Great Lakes Rehabilitation Hospital (Fac #63-0013)	Southfield
	1A	Straith Hospital for Special Surg (Fac #63-0150)	Southfield
	1A	The Orthopaedic Specialty Hospital (Fac #63-0060)	Madison Heights
	1A	St. John Oakland Hospital (Fac #63-0080)	Madison Heights
	1A	Southeast Michigan Surgical Hospital (Fac #50-0100)	Warren
	1B	Bi-County Community Hospital (Fac #50-0020)	Warren
	1B	St. John Macomb Hospital (Fac #50-0070)	Warren
	1C	Oakwood Hosp And Medical Center (Fac #82-0120)	Dearborn
	1C	Garden City Hospital (Fac #82-0070)	Garden City
	1C	Henry Ford –Wyandotte Hospital (Fac #82-0230)	Wyandotte
	1C	Select Specialty Hosp Wyandotte (LTAC - Fac #82-0272)*	Wyandotte
	1C	Oakwood Annapolis Hospital (Fac #82-0010)	Wayne
	1C	Oakwood Heritage Hospital (Fac #82-0250)	Taylor
	1C	Riverside Osteopathic Hospital (Fac #82-0160)	Trenton
	1C	Oakwood Southshore Medical Center (Fac #82-0170)	Trenton
	1C	Kindred Hospital – Detroit (Fac #82-0130)	Lincoln Park
	1D	Sinai-Grace Hospital (Fac #83-0450)	Detroit
	1D	Rehabilitation Institute of Michigan (Fac #83-0410)	Detroit
	1D	Harper University Hospital (Fac #83-0220)	Detroit
	1D	St. John Detroit Riverview Hospital (Fac #83-0034)	Detroit
	1D	Henry Ford Hospital (Fac #83-0190)	Detroit
	1D	St. John Hospital & Medical Center (Fac #83-0420)	Detroit
	1D	Children's Hospital of Michigan (Fac #83-0080)	Detroit
	1D	Detroit Receiving Hospital & Univ Hlth (Fac #83-0500)	Detroit
	1D	St. John Northeast Community Hosp (Fac #83-0230)	Detroit
	1D	Kindred Hospital–Metro Detroit (Fac #83-0520)	Detroit
	1D	SCCI Hospital-Detroit (LTAC - Fac #83-0521)*	Detroit
	1D	Greater Detroit Hosp–Medical Center (Fac #83-0350)	Detroit

1D	Renaissance Hosp & Medical Centers (Fac #83-0390)	Detroit
1D	United Community Hospital (Fac #83-0490)	Detroit

\*This is a hospital that must meet the requirement(s) of Section 15(1)(d) - LTAC.

APPENDIX A (continued)

Health Service Area	Sub Area	Hospital Name	City
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#### 1 – Southeast (continued)

1D	Harper-Hutzel Hospital (Fac #83-0240)	Detroit
1D	Select Specialty Hosp–NW Detroit (LTAC - Fac #83-0523)*	Detroit
1D	Bon Secours Hospital (Fac #82-0030)	Grosse Pointe
1D	Cottage Hospital (Fac #82-0040)	Grosse Pointe Farm
1E	Botsford General Hospital (Fac #63-0050)	Farmington Hills
1E	St. Mary Mercy Hospital (Fac #82-0190)	Livonia
1F	Mount Clemens General Hospital (Fac #50-0060)	Mt. Clemens
1F	Select Specialty Hosp – Macomb Co. (FAC #50-0111)*	Mt. Clemens
1F	St. John North Shores Hospital (Fac #50-0030)	Harrison Twp.
1F	St. Joseph's Mercy Hosp & Hlth Serv (Fac #50-0110)	Clinton Township
1F	St. Joseph's Mercy Hospital & Health (Fac #50-0080)	Mt. Clemens
1G	Mercy Hospital (Fac #74-0010)	Port Huron
1G	Port Huron Hospital (Fac #74-0020)	Port Huron
1H	St. Joseph Mercy Hospital (Fac #81-0030)	Ann Arbor
1H	University Of Michigan Health System (Fac #81-0060)	Ann Arbor
1H	Select Specialty Hosp–Ann Arbor (Ltac - Fac #81-0081)*	Ann Arbor
1H	Chelsea Community Hospital (Fac #81-0080)	Chelsea
1H	Saint Joseph Mercy Livingston Hosp (Fac #47-0020)	Howell
1H	Saint Joseph Mercy Saline Hospital (Fac #81-0040)	Saline
1H	Forest Health Medical Center (Fac #81-0010)	Ypsilanti
1H	Brighton Hospital (Fac #47-0010)	Brighton
1I	St. John River District Hospital (Fac #74-0030)	East China
1J	Mercy Memorial Hospital (Fac #58-0030)	Monroe

#### 2 - Mid-Southern

2A	Clinton Memorial Hospital (Fac #19-0010)	St. Johns
2A	Eaton Rapids Medical Center (Fac #23-0010)	Eaton Rapids
2A	Hayes Green Beach Memorial Hosp (Fac #23-0020)	Charlotte
2A	Ingham Reg Med Cntr (Greenlawn) (Fac #33-0020)	Lansing
2A	Ingham Reg Med Cntr (Pennsylvania) (Fac #33-0010)	Lansing
2A	Edward W. Sparrow Hospital (Fac #33-0060)	Lansing
2A	Sparrow – St. Lawrence Campus (Fac #33-0050)	Lansing
2B	Carelink of Jackson (Ltac Fac #38-0030)*	Jackson
2B	W. A. Foote Memorial Hospital (Fac #38-0010)	Jackson

2C	Hillsdale Community Health Center (Fac #30-0010)	Hillsdale
2D	Emma L. Bixby Medical Center (Fac #46-0020)	Adrian
2D	Herrick Memorial Hospital (Fac #46-0030)	Tecumseh

\*This is a hospital that must meet the requirement(s) of Section 15(1)(d) - LTAC.

APPENDIX A (continued)

Health Service Area	Sub Area	Hospital Name	City
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### 3 – Southwest

3A	Borgess Medical Center (Fac #39-0010)	Kalamazoo
3A	Bronson Methodist Hospital (Fac #39-0020)	Kalamazoo
3A	Borgess-Pipp Health Center (Fac #03-0031)	Plainwell
3A	Lakeview Community Hospital (Fac #80-0030)	Paw Paw
3A	Bronson – Vicksburg Hospital (Fac #39-0030)	Vicksburg
3A	Pennock Hospital (Fac #08-0010)	Hastings
3A	Three Rivers Area Hospital (Fac #75-0020)	Three Rivers
3A	Sturgis Hospital (Fac #75-0010)	Sturgis
3A	Sempercare Hospital at Bronson (LTAC - Fac #39-0032)*	Kalamazoo
3B	Fieldstone Ctr of Battle Crk. Health (Fac #13-0030)	Battle Creek
3B	Battle Creek Health System (Fac #13-0031)	Battle Creek
3B	Select Spec Hosp–Battle Creek (Ltac - Fac #13-0111)*	Battle Creek
3B	SW Michigan Rehab. Hosp. (Fac #13-0100)	Battle Creek
3B	Oaklawn Hospital (Fac #13-0080)	Marshall
3C	Community Hospital (Fac #11-0040)	Watervliet
3C	Lakeland Hospital, St. Joseph (Fac #11-0050)	St. Joseph
3C	Lakeland Specialty Hospital (LTAC - Fac #11-0080)*	Berrien Center
3C	South Haven Community Hospital (Fac #80-0020)	South Haven
3D	Lakeland Hospital, Niles (Fac #11-0070)	Niles
3D	Lee Memorial Hospital (A) (Fac #14-0010)	Dowagiac
3E	Community Hlth Ctr Of Branch Co (Fac #12-0010)	Coldwater

### 4 – WEST

4A	Memorial Medical Center Of West MI (Fac #53-0010)	Ludington
4B	Kelsey Memorial Hospital (Fac #59-0050)	Lakeview
4B	Mecosta County General Hospital (Fac #54-0030)	Big Rapids
4C	Spectrum Hlth-Reed City Campus (Fac #67-0020)	Reed City
4D	Lakeshore Community Hospital (Fac #64-0020)	Shelby
4E	Gerber Memorial Hospital (Fac #62-0010)	Fremont

4F	Carson City Hospital (Fac #59-0010)	Carson City
4F	Gratiot Community Hospital (Fac #29-0010)	Alma
4G	Hackley Hospital (Fac #61-0010)	Muskegon
4G	Mercy Gen Hlth Partners–(Sherman) (Fac #61-0020)	Muskegon
4G	Mercy Gen Hlth Partners–(Oak) (Fac #61-0030)	Muskegon
4G	Lifecare Hospitals of Western MI (LTAC - Fac #61-0052)*	Muskegon
4G	Select Spec Hosp–Western MI (LTAC - Fac #61-0051)*	Muskegon

\*This is a hospital that must meet the requirement(s) of Section 15(1)(d) - LTAC.

APPENDIX A (continued)

Health Service Area	Sub Area	Hospital Name	City
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#### 4 – West (continued)

4G	North Ottawa Community Hospital (Fac #70-0010)	Grand Haven
4H	Spectrum Hlth–Blodgett Campus (Fac #41-0010)	E. Grand Rapids
4H	Spectrum Hlth–Butterworth Campus (Fac #41-0040)	Grand Rapids
4H	Spectrum Hlth–Kent Comm Campus (Fac #41-0090)	Grand Rapids
4H	Mary Free Bed Hospital & Rehab Ctr (Fac #41-0070)	Grand Rapids
4H	Metropolitan Hospital (Fac #41-0060)	Grand Rapids
4H	Saint Mary's Mercy Medical Center (Fac #41-0080)	Grand Rapids
4I	Sheridan Community Hospital (A) (Fac #59-0030)	Sheridan
4I	United Memorial Hospital & LTCU (Fac #59-0060)	Greenville
4J	Holland Community Hospital (Fac #70-0020)	Holland
4J	Zeeland Community Hospital (Fac #70-0030)	Zeeland
4K	Ionia County Memorial Hospital (Fac #34-0020)	Ionia
4L	Allegan General Hospital (Fac #03-0010)	Allegan

#### 5 – GLS

5A	Memorial Healthcare (Fac #78-0010)	Owosso
5B	Genesys Reg Med Ctr–Hlth Park (Fac #25-0072)	Grand Blanc
5B	Hurley Medical Center (Fac #25-0040)	Flint
5B	Mclaren Regional Medical Center (Fac #25-0050)	Flint
5B	Select Specialty Hospital-Flint (LTAC - Fac #25-0071)*	Flint
5C	Lapeer Regional Hospital (Fac #44-0010)	Lapeer

#### 6 – East

6A	West Branch Regional Medical Cntr (Fac #65-0010)	West Branch
6A	Tawas St Joseph Hospital (Fac #35-0010)	Tawas City
6B	Central Michigan Community Hosp (Fac #37-0010)	Mt. Pleasant

6C	Mid-Michigan Medical Center-Clare (Fac #18-0010)	Clare
6D	Mid-Michigan Medical Cntr - Gladwin (Fac #26-0010)	Gladwin
6D	Mid-Michigan Medical Cntr - Midland (Fac #56-0020)	Midland

\*This is a hospital that must meet the requirement(s) of Section 15(1)(d) - LTAC.

(A) THIS IS A Hospital THAT has state/federal critical access hospital designation (SEE SECTION 11).

#### APPENDIX A (continued)

Health Service Area	Sub Area	Hospital Name	City
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#### 6 – East (continued)

6E	Bay Regional Medical Center (Fac #09-0050)	Bay City
6E	Bay Regional Medical Ctr-West (Fac #09-0020)	Bay City
6E	Samaritan Health Center (Fac #09-0051)	Bay City
6E	Bay Special Care (LTAC - Fac #09-0010)*	Bay City
6E	Standish Community Hospital (A) (Fac #06-0020)	Standish
6F	Select Specialty Hosp—Saginaw (LTAC - Fac #73-0062)*	Saginaw
6F	Covenant Medical Centers, Inc (Fac #73-0061)	Saginaw
6F	Covenant Medical Cntr—N Michigan (Fac #73-0030)	Saginaw
6F	Covenant Medical Cntr—N Harrison (Fac #73-0020)	Saginaw
6F	Healthsource Saginaw (Fac #73-0060)	Saginaw
6F	St. Mary's Medical Center (Fac #73-0050)	Saginaw
6F	Caro Community Hospital (Fac #79-0010)	Caro
6F	Hills And Dales General Hospital (Fac #79-0030)	Cass City
6G	Harbor Beach Community Hosp (A) (Fac #32-0040)	Harbor Beach
6G	Huron Medical Center (Fac #32-0020)	Bad Axe
6G	Scheurer Hospital (A) (Fac #32-0030)	Pigeon
6H	Deckerville Community Hospital (A) (Fac #76-0010)	Deckerville
6H	Mckenzie Memorial Hospital (A) (Fac #76-0030)	Sandusky
6I	Marlette Community Hospital (Fac #76-0040)	Marlette

#### 7 - Northern Lower

7A	Cheboygan Memorial Hospital (Fac #16-0020)	Cheboygan
7B	Charlevoix Area Hospital (Fac #15-0020)	Charlevoix
7B	Mackinac Straits Hospital (A) (Fac #49-0030)	St. Ignace
7B	Northern Michigan Hospital (Fac #24-0030)	Petoskey
7C	Rogers City Rehabilitation Hospital (Fac #71-0030)	Rogers City

7D	Otsego Memorial Hospital (Fac #69-0020)	Gaylord
7E	Alpena General Hospital (Fac #04-0010)	Alpena
7F	Kalkaska Memorial Health Center (A) (Fac #40-0020)	Kalkaska
7F	Leelanau Memorial Health Center (A) (Fac #45-0020)	Northport
7F	Munson Medical Center (Fac #28-0010)	Traverse City
7F	Paul Oliver Memorial Hospital (A) (Fac #10-0020)	Frankfort

\*This is a hospital that must meet the requirement(s) of Section 15(1)(d) - LTAC.

(A) THIS IS A Hospital THAT has state/federal critical access hospital designation (SEE SECTION 11).



## APPENDIX A (continued)

Health Service Area	Sub Area	Hospital Name	City
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<b>7 - Northern Lower (continued)</b>			
	7G	Mercy Hospital - Cadillac (Fac #84-0010)	Cadillac
	7H	Mercy Hospital - Grayling (Fac #20-0020)	Grayling
	7I	West Shore Medical Center (Fac #51-0020)	Manistee
<b>8 - UPPER PENINSULA</b>			
	8A	Grand View Hospital (Fac #27-0020)	Ironwood
	8B	Ontonagon Memorial Hospital (A) (Fac #66-0020)	Ontonagon
	8C	Iron County General Hospital (Fac #36-0020)	Iron River
	8D	Baraga County Memorial Hospital (A) (Fac #07-0020)	L'anse
	8E	Keweenaw Memorial Medical Center (Fac #31-0010)	Laurium
	8E	Portage Health System (Fac #31-0020)	Hancock
	8F	Dickinson County Memorial Hospital (Fac #22-0020)	Iron Mountain
	8G	Bell Memorial Hospital (Fac #52-0010)	Ishpeming
	8G	Marquette General Hospital (Fac #52-0050)	Marquette
	8H	St. Francis Hospital (Fac #21-0010)	Escanaba
	8I	Munising Memorial Hospital (A) (Fac #02-0010)	Munising
	8J	Schoolcraft Memorial Hospital (A) (Fac #77-0010)	Manistique
	8K	Helen Newberry Joy Hospital (A) (Fac #48-0020)	Newberry
	8L	Chippewa Co. War Memorial Hosp (Fac #17-0020)	Sault Ste Marie

(A) THIS IS A Hospital THAT haS state/federal critical access hospital designation (SEE SECTION 11).

**APPENDIX B****CON REVIEW STANDARDS  
FOR HOSPITAL BEDS**

Rural Michigan counties are as follows:

Alcona	Hillsdale	Ogemaw
Alger	Huron	Ontonagon
Antrim	Iosco	Osceola
Arenac	Iron	Oscoda
Baraga	Lake	Otsego
Charlevoix	Luce	Presque Isle
Cheboygan	Mackinac	Roscommon
Clare	Manistee	Sanilac
Crawford	Mason	Schoolcraft
Emmet	Montcalm	Tuscola
Gladwin	Montmorency	
Gogebic	Oceana	

Micropolitan statistical area Michigan counties are as follows:

Allegan	Gratiot	Mecosta
Alpena	Houghton	Menominee
Benzie	Isabella	Midland
Branch	Kalkaska	Missaukee
Chippewa	Keweenaw	St. Joseph
Delta	Leelanau	Shiawassee
Dickinson	Lenawee	Wexford
Grand Traverse	Marquette	

Metropolitan statistical area Michigan counties are as follows:

Barry	Ionia	Newaygo
Bay	Jackson	Oakland
Berrien	Kalamazoo	Ottawa
Calhoun	Kent	Saginaw
Cass	Lapeer	St. Clair
Clinton	Livingston	Van Buren
Eaton	Macomb	Washtenaw
Genesee	Monroe	Wayne
Ingham	Muskegon	

Source:

65 F.R., p. 82238 (December 27, 2000)  
Statistical Policy Office  
Office of Information and Regulatory Affairs  
United States Office of Management and Budget

**APPENDIX C****CON REVIEW STANDARDS  
FOR HOSPITAL BEDS**

The hospital bed need for purposes of these standards until otherwise changed by the Commission are as follows:

Health Service Area	SA No.	Bed Need	Bed Inventory 12-01-03*
<b>1 - SOUTHEAST</b>			
	1A	2693	3408
	1B	415	551
	1C	1372	2143
	1D	3098	4828
	1E	451	578
	1F	636	770
	1G	275	282
	1H	1431	1773
	1I	50	68
	1J	149	217
<b>2 - MID-SOUTHERN</b>			
	2A	866	1143
	2B	293	390
	2C	48	65
	2D	98	180
<b>3 - SOUTHWEST</b>			
	3A	763	1080
	3B	282	341
	3C	261	431
	3D	85	89
	3E	59	102
<b>4 - WEST</b>			
	4A	57	81
	4B	63	126
	4C	17	42
	4D	11	24
	4E	38	61
	4F	136	191
	4G	391	568
	4H	1240	1738
	4I	47	65
	4J	153	250
	4K	21	77
	4L	24	54

**\*Applicants must contact the Department to obtain the current number of beds in the Department inventory of beds. Note the figures in the Bed Inventory Column do not reflect any data regarding applications for beds under appeal or pending a final Department decision.**

**APPENDIX C (Continued)**

Health Service Area	SA No.	Bed Need	Bed Inventory 12-01-03*
5 - GLS			
	5A	79	115
	5B	1120	1241
	5C	119	183
6 - EAST			
	6A	99	148
	6B	55	118
	6C	47	64
	6D	216	272
	6E	299	443
	6F	765	1091
	6G	43	64
	6H	13	40
	6I	24	48
7 - NORTHERN LOWER			
	7A	43	46
	7B	203	273
	7C	0	36
	7D	27	53
	7E	99	124
	7F	349	354
	7G	62	97
	7H	53	90
	7I	40	75
8 - UPPER PENINSULA			
	8A	24	54
	8B	7	25
	8C	21	36
	8D	11	24
	8E	50	85
	8F	88	96
	8G	228	358
	8H	57	110
	8I	4	25
	8J	7	25
	8K	9	25
	8L	52	82

**\*Applicants must contact the Department to obtain the current number of beds in the Department inventory of beds. Note the figures in the Bed Inventory Column do not reflect any data regarding applications for beds under appeal or pending a final Department decision.**

OCCUPANCY RATE TABLE



Adult Medical/Surgical					Pediatric Beds				
Beds					Beds				
ADC >=	ADC<	Occup	Start	Stop	ADC >	ADC<=	Occup	Start	Stop
	30	0.60		<=50		30	0.50		<=50
31	32	0.60	52	52	30	33	0.50	61	66
32	34	0.61	53	56	34	40	0.51	67	79
35	37	0.62	57	60	41	46	0.52	80	88
38	41	0.63	61	65	47	53	0.53	89	100
42	46	0.64	66	72	54	60	0.54	101	111
47	50	0.65	73	77	61	67	0.55	112	121
51	56	0.66	78	85	68	74	0.56	122	131
57	63	0.67	86	94	75	80	0.57	132	139
64	70	0.68	95	103	81	87	0.58	140	149
71	79	0.69	104	114	88	94	0.59	150	158
80	89	0.70	115	126	95	101	0.60	159	167
90	100	0.71	127	140	102	108	0.61	168	175
101	114	0.72	141	157	109	114	0.62	176	182
115	130	0.73	158	177	115	121	0.63	183	190
131	149	0.74	178	200	122	128	0.64	191	198
150	172	0.75	201	227	129	135	0.65	199	206
173	200	0.76	228	261	136	142	0.66	207	213
201	234	0.77	262	301	143	149	0.67	214	220
235	276	0.78	302	350	150	155	0.68	221	226
277	327	0.79	351	410	156	162	0.69	227	232
328	391	0.80	411	484	163	169	0.70	233	239
392	473	0.81	485	578	170	176	0.71	240	245
474	577	0.82	579	696	177	183	0.72	246	252
578	713	0.83	697	850	184	189	0.73	253	256
714	894	0.84	851	894	190	196	0.74	257	262
895		0.85	>=1054		197		0.75	>=263	

Obstetric Beds				
Beds				
ADC >	ADC<=	Occup	Start	Stop
	30	0.50		<=50
30	33	0.50	61	66
34	40	0.51	67	79
41	46	0.52	80	88
47	53	0.53	89	100
54	60	0.54	101	111
61	67	0.55	112	121
68	74	0.56	122	131
75	80	0.57	132	139
81	87	0.58	140	149
88	94	0.59	150	158
95	101	0.60	159	167
102	108	0.61	168	175
109	114	0.62	176	182

115	121	0.63	183	190
122	128	0.64	191	198
129	135	0.65	199	206
136	142	0.66	207	213
143	149	0.67	214	220
150	155	0.68	221	226
156	162	0.69	227	232
163	169	0.70	233	239
170	176	0.71	240	245
177	183	0.72	246	252
184	189	0.73	253	256
190	196	0.74	257	262
197		0.75	>=263	



**APPENDIX E**

## LIMITED ACCESS AREAS

LIMITED ACCESS AREAS AND THE HOSPITAL BED NEED FOR EACH OF THOSE AREAS ARE IDENTIFIED BELOW. THE HOSPITAL BED NEED FOR LIMITED ACCESS AREAS SHALL BE CHANGED BY THE DEPARTMENT IN ACCORDANCE WITH SECTION 2(1)(Q) OF THESE STANDARDS, AND THIS APPENDIX SHALL BE UPDATED ACCORDINGLY.

HEALTH SERVICE AREA	LIMITED ACCESS AREA	BED NEED	BED INVENTORY (DATE)*
1 - SOUTHEAST	ST.CLAIR/PLUS 1104	169	0
4 - WEST	NEWAYGO/PLUS 1104	104	0

## SOURCES:

- 1) MICHIGAN STATE UNIVERSITY  
DEPARTMENT OF GEOGRAPHY  
HOSPITAL SITE SELECTION FINAL REPORT  
NOVEMBER 2004
- 2) SECTION 4 OF THESE STANDARDS

**MICHIGAN DEPARTMENT OF PUBLIC HEALTH  
OFFICE OF HEALTH AND MEDICAL AFFAIRS**

**CON REVIEW STANDARDS FOR HOSPITAL BEDS  
-- ADDENDUM FOR PROJECTS FOR HIV INFECTED INDIVIDUALS --**

(By authority conferred on the CON Commission by sections 22215 and 22217 of Act No. 368 of the Public Acts of 1978, as amended, and sections 7 and 8 of Act No. 306 of the Public Acts of 1969, as amended, being sections 333.22215, 333.22217, 24.207, and 24.208 of the Michigan Compiled Laws.)

**XIV. Section 1. Applicability; definitions**

Sec. 1. (1) This addendum supplements the CON Review Standards for Hospital Beds and may be used for determining the need for projects established to meet the needs of HIV infected individuals.

(2) Except as provided by sections 2 and 3 below, these standards supplement and do not supercede the requirements and terms of approval required by the CON Review Standards for Hospital Beds.

(3) The definitions that apply to the CON Review Standards for Hospital Beds apply to these standards.

(4) "HIV infected" means that term as defined in Section 5101 of the Code.

(5) Planning area for projects for HIV infected individuals means the State of Michigan.

**Section 2. Requirements for approval; change in bed capacity**

Sec. 2. (1) A project which, if approved, will increase the number of licensed hospital beds in an overbedded subarea or will result in the total number of existing hospital beds in a subarea exceeding the needed hospital bed supply as determined under the CON Review Standards for Hospital Beds may, nevertheless, be approved pursuant to subsection (3) of this addendum.

(2) Hospital beds approved as a result of this addendum shall be included in the Department inventory of existing beds in the subarea in which the hospital beds will be located. Increases in hospital beds approved under this addendum shall cause subareas currently showing a current surplus of beds to have that surplus increased.

(3) In order to be approved under this addendum, an applicant shall demonstrate all of the following:  
(a) The Director of the Department has determined that action is necessary and appropriate to meet the needs of HIV infected individuals for quality, accessible and efficient health care.

(b) The hospital will provide services only to HIV infected individuals.

(c) The applicant has obtained an obligation, enforceable by the Department, from existing licensed hospital(s) in any subarea of this state to voluntarily delicense a number of hospital beds equal to the number proposed in the application. The effective date of the delicensure action will be the date the beds approved pursuant to this addendum are licensed. The beds delicensed shall not be beds already subject to delicensure under a bed reduction plan.

(d) The application does not result in more than 20 beds approved under this addendum in the State.

(4) In making determinations under Section 22225(2)(a) of the Code, for projects under this addendum, the Department shall consider the total cost and quality outcomes for overall community health systems for services in a dedicated portion of an existing facility compared to a separate aids facility and has determined that there exists a special need, and the justification of any cost increases in terms of important quality/access improvements or the likelihood of future cost reductions, or both.

**Section 3. Project delivery requirements--additional terms of approval for projects involving HIV infected individuals approved under this addendum.**

Sec. 3. (1) An applicant shall agree that, if approved, the services provided by the beds for HIV infected individuals shall be delivered in compliance with the following terms of CON approval:

(a) The license to operate the hospital will be limited to serving the needs of patients with the clinical spectrum of HIV infection and any other limitations established by the Department to meet the purposes of this addendum.

(b) The hospital shall be subject to the general license requirements of Part 215 of the Code except as waived by the Department to meet the purposes of this addendum.

(c) The applicant agrees that the Department shall revoke the license of the hospital if the hospital provides services to inpatients other than HIV infected individuals.

**Section 4. Comparative reviews**

Sec. 4. (1) Projects proposed under Section 3 shall be subject to comparative review.



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## **Statement on Behalf of a High Occupancy Provision**

Good Morning. My name is Mark Mailloux and I am Senior Health System Planner at the University of Michigan Health System.

The UMHS would like to thank the Standards Advisory Committee for addressing the diverse and difficult issues facing the hospital industry. The UMHS would also like to lend its continued support for the inclusion of a "high occupancy" provision in the bed standards.

Currently, the standards state "for a licensed hospital with 300 or more beds, an average occupancy of 85% and above must be achieved for 12 consecutive months before additional beds can be added to reduce the rate to 80%." A baseline standard for all hospitals would also achieve the same goal without discriminating between hospital sizes. The language could read, "a hospital must achieve an occupancy of 85% for 12 consecutive months before additional beds can be added to reduce the occupancy rate to 75%." This language would distribute the bed complement evenly to all applicants. Additionally, reducing the threshold from 80% to 75% would allow for long term planning to incorporate anticipated growth in the patient base.

A concern of increasing the bed inventory for a high occupancy hospital is managing the overall inventory in a state that is overbedded. To address that concern, we recommend the concept of requiring hospitals that have qualified for additional beds to acquire those beds if possible from the existing, but unused, bed inventory across the state (not just from the local Health Service Area (HSA)). This would help the Department to maintain the same number of beds statewide in an overbedded state, and would also offer an opportunity for licensed hospitals to acquire beds that might not have been available had the market been constrained to the local HSA. By broadening the marketplace, hospitals benefit from being able to acquire beds in a competitive market and with greater availability, and the Department could achieve its goal of assuring that Michigan not become even more severely overbedded. Beds are treated as a commodity which would benefit those hospitals that are seeking to increase, while assisting smaller facilities that could benefit from an influx of cash.

In order to prevent a hospital bed stricture, a waiver system could be operated by the Director if, in some scenarios, the beds were being offered on the market for

an extreme price. The option would exist for the Director to review the need as well as the market price, and then make a determination to grant a certain level of beds to the applicant. By allowing the waiver, this option also prohibits facilities with additional beds from holding those facilities seeking beds "hostage" to excessive costs.

Finally, a separate standard should be developed for pediatric beds in licensed hospitals across Michigan. The designated pediatric beds in an applicant's inventory of licensed hospital beds would need to be at a utilization rate of 75% in order to qualify for the high occupancy standard. The language would specifically identify pediatric beds and designate them as pediatric units on an ongoing basis. The Department would then "lock in" a specific number of beds and the applicant could not move or re-designate these beds for at least 10 years.

This would provide the Department reasonable certainty that beds would not be shuffled back and forth between different designations (adult vs. pediatric) to game the system and gain new beds improperly. A Certificate of Need (CoN) process should be drafted that would allow licensed hospitals that seek to "lock in" their identified pediatric beds, to file with the Department. This process would officially designate those beds as locked for the 10-year period.

Language to accomplish this objective Gould state, "Applicants utilizing pediatric beds in a high occupancy request shall apply for certificate of need approval to designate the beds as pediatric beds. By applying for certificate of need approval for pediatric bed status, the applicant would agree to utilize the beds only as pediatric beds for a period not less than ten years. A hospital must achieve an occupancy rate of 75% for 12 consecutive months for its designated pediatric beds before additional beds could be added to reduce the pediatric occupancy rate to 65%." The same statewide acquisition provisions, described above for general adult medical/surgical beds, would apply to pediatric beds as well.

Thank you for the opportunity to present our concerns. We stand ready to work with you and with the Department on this issue.